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ABSTRACT

The language arts are often neglected by environmental educators because they seem to evade integration with environmental concepts. However, they are among the most adaptable of the disciplines, and it is essential that the skills they teach (abstraction, imagination, and communication) be brought to bear on the environment. Only through study and mastery of human expression can the student achieve a deeper environmental understanding and communicate the nature of the relationship between man and his environment. Therefore, a compendium of language arts activities that focus on the environment is provided for elementary school teachers. The activities, suitable for grades 1 to 7, are presented in four sections titled: (1) listening; (2) vocabulary; (3) speech and dramatics; and (4) creative writing. Instructional strategies and recommended levels are provided for each activity. All activities are intended to be integrated into the regular school curriculum. (JN)

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Language Arts With an Environmental Twang

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Curriculum Series, Number 1

LANGUAGE ARTS WITH AN ENVIRONMENTAL TWANG

Environmental Education Activities for Grades 1-7

by

MIRIAM LITCHFIELD

Edited and designed by K.M. Fraser

Center for Environmental Education
Murray State University
Murray, Kentucky 42071

December 1978

CURRICULUM SERIES

The Center for Environmental Education has initiated the Curriculum Series to provide teachers in the West Kentucky region with curriculum material for environmental education. The activities presented in volumes of the Series explore and interpret our environment, encouraging and nuturing the student's awareness of the world we live in. A number of subject areas and grade levels are involved.

The first volume in the Curriculum Series is *Language Arts With an Environmental Twang*, a compendium of innovative and imaginative ideas for the elementary school teacher. The language arts are often neglected by environmental educators because they seem to evade integration with environmental concepts. However, they are among the most adaptable of the disciplines, and it is essential that the skills they teach--abstraction, imagination, and communcation--be brought to bear on the environment. Only through study and mastery of human expression can the student achieve a deeper environmental understanding and communicate the nature of the relationship between man and his environment.

Miriam Litchfield compiled *Language Arts With an Environmental Twang* as a graduate assistant for the Center for Environmental Education. She graduated from Murray State University with a masters degree in education (emphasis in environmental education) in 1978. Currently she works on special projects for the Environmental Education Section at TVA's Land Between The Lakes. She has been a fourth grade teacher and was a teacher/naturalist for two environmental education centers--Glen Helen Outdoor Education Center in Ohio and Ashokan Field Campus in New York. Her interest in and concern for our natural environment is clearly evident in these activites, and her approach to language arts is fresh and imaginative.

The Center for Environmental Education was formed to aid in the development of a citizenry that has a basic understanding of man's relation to and interaction with the environment, realizes the need for environmental concern, and is willing to undertake the responsibility for environmental action. We hope that teachers will not only apply the activities suggested here, but will be stimulated to share our aims and develop instructional procedures of their own. Theirs is the opportunity to motivate students to go beyond awareness and understanding to the point where they will commit themselves to responsible action.

Dear Educators,

The language arts activities in this booklet come from a lot of sources. I adapted some well known language arts activities to gear them towards the environment, found some good new environmental education activites and geared them towards language arts, and even evented a few. All the activities are hooked into the environment in some way--the environment outdoors, the environment indoors, or the environment within our heads.

The booklet is divided into four sections: *Listening, Vocabulary, Speech and Dramatics,* and *Creative Writing.* There's something here for teachers of grades 1 through 7. At the end of each activity is the recommended grade level, but if you think something I've indicated for grade 3 would be good for your grade 2 class, go right ahead.

Don't treat these activities as a special addition to your present curriculum. They're intended to be a natural part of it. Go right on teaching the same things you've always taught--how to write a complete sentence, how to use descriptive phrases--but use the environment as subject matter. Go outside to find adjectives, write a complete sentence about a way to conserve energy . . . once you start you'll have no problem.

Take these ideas and twist them, turn them, flop them upsidedown to meet the needs of your class, but please, leave that *environmental twang* in them!

Sincerely,

Miriam Litzfield

LISTENING

ANIMAL SOUNDS

Blindfold the students and divide them into two groups. Whisper the name of a different animal to each student in one group. Whisper the same names to students in the other group. At a signal, each student mimics the sound made by his animal, e.g., the barking of a dog, cawing of a crow, growling of a bear. The two students assigned the same animal attempt to find each other by weeding through all the noise! This one takes some heavy-duty listening *Grades 1-6.*

WHO SAID THAT?

Take the class to a nearby meadow or forest. Students sit very still and listen to the sounds of nature for a while. They must not sit close together, or no one will be able to hear anything over the giggles!

Then the class forms a circle with a blindfolded student in the center. A student in the circle mimics a sound heard in the out-of-doors, e.g., the wind blowing, crow cawing, ice breaking, stream gurgling. The blindfolded student attempts to point to the student making the noise. If he is successful, the student making the noise moves to the center. If he is unsuccessful, another student in the circle tries a different sound. *Grades 1-6.*

ENVISIONING SOUNDS

Students choose a partner. One student makes a sound, either an imitation of a sound heard out-of-doors or the sound made during an imaginary occurrence. Be creative, e.g., spiders tiptoeing on mushrooms, grasshoppers jumping over boulders, dry grass burning in a fire. His partner draws a picture of what he believes the sound to be from. The student making the sound attempts to guess what his partner thinks it is from the image he's drawn. If he's successful, the roles are reversed. Tell the students that art work doesn't have to be expert. *Grades 1-7.*

LISTENING TO A BUDDY

Students construct nature crafts following the directions in simple craft books. They rewrite the directions in their own words. Now, without looking at either set of directions, they attempt to teach a buddy how to construct their crafts. *Grades 5-7.*

HEARING OBJECTS

Each child has an opaque covered container into which he puts a small natural object, e.g., acorn, pebble. Divide the class into small groups. Each child shakes the containers belonging to others in his group and attempts to guess the contents. *Grades 1-3.*

SOUND HIKE

Students close their eyes and listen carefully. Tell them to display a closed fist, then hold up a finger for each sound they hear. Do this for thirty seconds. How many different sounds did they hear? What sounds did they like best? What sounds were the loudest? softest? highest? lowest? *Grades 1-3.*

SYMPHONY OF NATURE

Give each student a sheet of paper marked off into four squares, each bearing one of the following headings: birds, insects, four-legged creatures, man. Each student selects a quiet place in a wooded area near the school. He sits there alone for ten minutes and records all the sounds he hears in words or pictures under the appropriate headings. (If your school is located in an urban area, try a symphony of the city.) *Grades 2-4.*

SOUND MAP

Take the children for a walk around the schoolyard. Tell them to listen carefully and remember all they hear. In the classroom, draw a map of the school and schoolyard on a large piece of butcher paper. The children indicate what sounds they heard and where they heard them on the map. *Grades 1-3.*

ENERGY SOUNDS

Small groups tape sounds produced by energy consumption in the school and the neighborhood over a period of time. Can the rest of the class guess the source of each sound? Which sounds could be eliminated? *Grades 5-7.*

SOUNDS TAPE

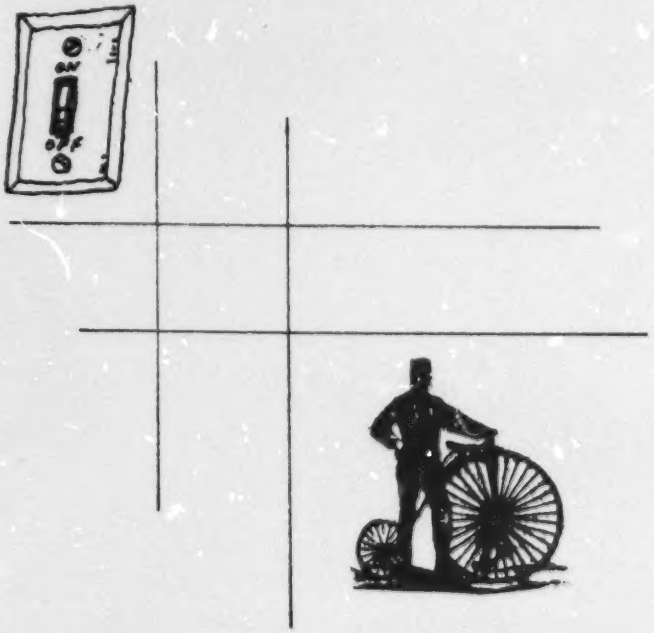
Each child tapes man-made sounds and sounds occurring naturally. He selects pictures to illustrate the sounds, pastes them onto sheets of paper, and binds the sheets into a booklet. Pass the tapes and booklets on to teachers of the primary grades; students there can use them to identify sounds. *Grades 5-7.*

MUSICAL MOVES

Children listen to recordings of sounds in nature (records of the sea, the desert, etc.). Then they devise body movements to match the sounds. Try bird songs! If the kids keep in mind that the birds are making the music, they come up with wonderful head, neck, and mouth movements. *Grades 1-3.*

ENERGY BINGO

Construct some traditional bingo cards, but put energy information in the squares instead of numbers, e.g., ride a bike, leave the lights on, use a self-defrosting refrigerator. As you call out the squares, ask the kids tc decide if the item is energy-conserving. If it is, thumbs up; if it's not, thumbs down. *Grades 4-7.*



JUMP UP

Read the children a story about the environment or make one up. (Try Dr. Seuss's book on pollution, *The Lorax.*) Give each child the role of a character or an object in the story. Now read the story again. When he hears his name, the student must jump up quickly. You might want to give two students the same role; one child jumps up when you call his name and the other makes a corresponding sound. *Grades 1-2.*

THE BEST PRESENT OF ALL

"The Best Present of All" is a story about energy sources that appeared in the children's magazine *Ranger Rick.* The story tells of a king who wanted to give his kingdom a safe and efficient source of energy. The National Wildlife Federation, publishers of *Ranger Rick,* will send you a copy along with their free education packet. (Additional copies cost 15¢ each.) Write them at 1412 Sixteenth Street NW, Washington, DC 20036.

Turn "The Best Present of All" into a play. Assign the roles of characters to selected students, and choose one student as the narrator. The audience must listen closely to the narrator and watch him closely as well. He will hold up signs to indicate whose turn it is to speak. The audience must respond with the sound that introduces each character. The sounds are as follows:

King - da-da-da-daaah
Mr. Coal - crunch, crunch
Mr. Oil - squish, squish
Mr. Gas - psssssss
Mr. Atom - dit-dit-dit-dit
General Water - shwash, shwash
Mr. Geothermal - huffa-puffa
Sun - ohhhhhh!

Grades 4-6

ALPHABET REPEAT

Take the class for a walk around the schoolyard or neighborhood. Back in the classroom, students sit in a circle. One student begins by saying

I took a hike, and on my hike I saw a _____.

He fills in the blank with a word beginning with the letter "a", e.g., *acorn.* Class members repeat the sentence. Then the student to the right of the one who began says the same sentence, substituting a word beginning with the letter "b" to fill in the blank, e.g., *brook.* Now the class repeats both sentences. The pattern continues with a third student, and so on. If a student can't think of something he saw on the hike beginning with the appropriate letter, he may use something else. *Grades 1-3.*

TOUCH BLUE

Take the class outside. Designate a tree or an open area as the "call base." One student begins the exercise by going to the call base and calling out an action the others are to perform. "Walk, walk, walk!" (Repeat three times.) All students walk about until a second student goes to the call base and commands the others to touch something in the environment, e.g., "touch blue!" "touch a tree!" "touch another person's nose!" All students obey the command. Then they wait until another student goes to the call base and calls out another movement. "Crawl, crawl, crawl!" Students crawl until someone goes to the call base and commands them to touch something. "Touch the sky!" "Touch green!" "Touch a passing toe!" The pattern continues until someone goes to the call base and calls out the closing phrase: "Touch the earth, touch the earth, touch the earth!" *Grades 3-7.*

PREDATOR/PREY

Students form a circle and join hands. Two students are blindfolded and placed apart in the center of the circle. One chooses to be a predator (e.g., hawk) and the other chooses to be a prey (e.g., mouse). At a signal, the predator tries to find his prey. Both predator and prey must listen carefully to detect the slightest movement. When the predator catches the prey, both students join the circle and two new students move to the center. *Grades 1-5.*

OWLS AND CROWS

Groups of crows have always harassed solitary owls. In this listening game, the owls get the chance to harass them back!

Divide the class into two rows facing each other. Fifty feet behind each row, draw or mark off a line. To begin the game, make a statement about the environment in a quiet voice, e.g., all birds migrate south; leaves will eventually turn to soil; everything depends on the sun. If the statement is true, the owls chase the crows back to the crows' line. If the statement is false, the crows chase the owls back to the owls' line. Anyone who is caught before reaching his line must join the opposite team. This game is great for review of a particular lesson or unit. *Grades 3-7.*

TWENTY QUESTIONS

One student thinks of an object in the environment. The other students attempt to guess what it is by asking no more than twenty questions. All questions must be answerable by "yes" or "no." Children must listen carefully in order to remember clues. *Grades 3-7.*

HALF A STORY

Read the class half of a story stressing environmental concerns. They think of an ending for the story and either write it down or draw it. *There Lived a Wicked Dragon*, a fable about pollution, is ideal for this activity. Published in the form of a comic book, it is available free from the Environmental Protection Agency, Washington, DC 20460. *Grades 1-7.*

HEADLINES

Read Dr. Seuss's *The Lorax* or another environmental book to the class. Tell students they are on-the-scene reporters from the local newspaper. They must write an article capturing the main events for this evening's edition. *Grades 5-7.*

FROM POEM TO PICTURE

Read the children a poem about nature. Then ask them to draw a picture illustrating the images that came to their minds as they listened to the poem.

Use charcoal to draw the scene. Fill in the outlines with paints made from natural objects, e.g. *brown* from soils; *yellow* from dandelions, buttercups and goldenrod; *green* from leaves and grasses; *orange* from daylilies; *red* from berries; *blue* from chicory flowers. Moisten soils with water; crush plants and flowers. *Grades 1-7.*

INTERVIEWING

Explore the inner environment. Students interview individuals regarding their opinions on the energy crunch, U.S. president, local environmental issues, drugs, early marriage, etc. Try the teacher, parents, preacher, businessman, janitor.

In the classroom, kids roleplay the individuals they interviewed. Have some hats, jackets, or scarves handy to assist with characterization. *Grades 5-7.*

GETTING TO KNOW YOU

Pair students up. One partner tells the other five things he thinks the other doesn't know about himself. Reverse roles. After the exercise, students write a description of their partners from their new perspectives. *Grades 5-7.*

FOR ME TO TRUST YOU

Pair students up. Be careful not to pair best friends! One partner says to the other "For me to trust you, you have to . . . " adding whatever is necessary. For example, "for me to trust you, you have to really listen when I'm talking" or "for me to trust you, you have to be sincere." After one minute, reverse roles. *Grades 5-7.*

VALUES VOTING

The leader (teacher or student) asks question designed to determine students' values regarding the environment. Students respond by raising their hands; they may pass if they wish. Afterwards, discuss responses. Be careful not to criticize or react in a negative manner. Following are some questions which might be asked. *Grades 4-7.*

Do you change the kinds of clothing you wear indoors in winter?

Do you set your thermostat at 65°? Do you turn it down to 60° or less at night?

Have you or your parents made energy-conserving changes in your lifestyle?

Have you ever thrown a piece of paper on the ground and left it there? Have you ever passed by litter without picking it up?

Do you refuse to have your purchases put in a paper bag?

Do you leave water running when you're brushing your teeth?

Do you remember to turn off the lights when you leave a room?

VOCABULARY

PRICKLES AND TICKLES

Send kids out to the schoolyard to find a *prickle* and a *tickle.* (An example of a prickle is a milkweed pod; a tickle, milkweed seeds.) When they return, each child chooses a partner. One member of each pair is blindfolded (or told to close his eyes); the other gently rubs the prickle and then the tickle over his partner's nose, cheeks, forehead, arms, hands, etc. The blindfolded child describes the objects and eventually attempts to guess what they are. Reverse roles.

Afterwards the older children write a descriptive poem or story involving both partners' objects. Younger children copy down their descriptive terms and display them with the prickles and tickles. *Grades 1-5.*

HOLE IN A TREE

Help the kids find examples of their vocabulary words outside. Stuff a hole in a tree or a hollow log with strips of paper bearing vocabulary words. Children take turns pulling out a strip and reading it. Then pairs of children try to find an object that represents the word. *Grades 1-2.*

SELF-COLLAGE

Discuss personalities and characteristics -- those we like and those we don't like. Each student thinks of words to describe himself (e.g., runner, musician, friendly, shy). He cuts pictures and words from old magazines to match his characteristics and makes a collage. If students don't object, pass the collages around and see if class members can match collage to creator. *Grades 3-7.*

ANGLES

Arrange students around a natural object (an old oak, a hollow log, a large bush), making sure that each individual's viewpoint is different. Place people close to the object and far away, lying on the ground, looking backwards over their shoulders, looking between another's legs -- any way you want. Now students take turns describing the objects. Older children write down their impressions later. *Grades 1-5.*

IMAGES

The class sits in a circle. Pass around a natural object. Each student describes the object differently from the way any other student has described it. Remind them to consider color, size, smell, texture, sound, emotions the object evokes, etc. Record the observations and use the descriptions in other language activities. *Grades 1-5.*

ENDLESS LIST

Give each child a long, narrow strip of paper. Send the kids outside and instruct them each to find a natural object that appeals to him for some reason. He is to make a list of everything he notices about the object on the paper. Tell him to consider texture, color, size, etc. Encourage dozens and dozens of words. Hold a contest to see who can think up the most words. *Grades 3-7.*

LABEL YOUR ROOM

Children examine their classroom thoroughly, using all their senses. They label spots that are extremely cold, hot, bumpy, slick, furry, wrinkly, comfortable, etc. *Grades 1-2.*

ONE OF A KIND

Give everyone a similar kind of rock. Tell each student to examine his rock carefully, using all of his senses. For example, he can rub it on his cheeck, nose, arm, and the palm of his hand and let it lay on his forehead or eyelids for a moment; he can taste it and smell it, look at it closely and look at it from a distance. Older children jot down their descriptions; younger ones describe the rock to a partner.

Now collect all the rocks from the students and pile them together. The students, blindfolded, see if they can find their own rocks in the pile.

Try the same exercise with leaves from the same tree. Don't blindfold the students this time, though. Let them use their sense of sight, as well as their other senses, to find their leaves, because leaves are much harder to find than rocks! *Grades 1-7.*

ONE OF A KIND CIRCLE

The children sit in a circle. Pass out similar kinds of rocks, as above, and ask the children to examine them carefully, using all of their senses. Now collect the rocks, blindfold the children, and give the rocks back to different children. At a signal, the children pass the rocks around the circle, each passing the rock he holds to the person on his right as he accepts a rock from the person on his left. When a child thinks he's found his own rock, he keeps it and removes his blindfold, but continues to pass the other rocks around the circle. The activity is over when every child has found his own rock. *Grades 1-7.*

COLOR CHAINS

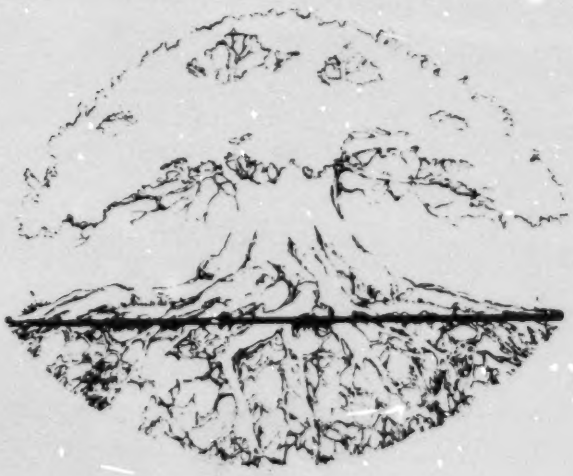
Try this in the autumn, when the trees look like a painter's palette. Take the kids outside. Send them to find as many different colors of leaves as they can. Then pairs of kids arrange their leaves in order by color to form color chains, each shade of color blending into the next. Start with short color chains consisting of one color, the lightest shade at one end, the darkest at the other end, and the rest between the two extremes. Then make other color chains to add to it. Finally connect all the chains to form one long chain -- perhaps long enough to go around the school! *Grades 1-2 (but older kids like this one too!).*

CLOUD WATCHING

Take the class outside on a warm day. Each student lies on his back in the warm grass and watches the clouds. Encourage the students to think of *similes* involving the clouds -- comparing the ways they move or the patterns they make. *Examples:* "Those zippy clouds are like ladies at a bargain store basement sale." *Grades 3-7.*

FIND MY TREE

Discuss tree identification. What do you look for? Mention bark, leaves, branching, seeds, type of environment, etc. Take the kids outside. Each student picks a tree and examines it thoroughly, using all of his senses. Then he describes his tree to a partner, and the partner attempts to guess what kind of tree it is. *Grades 3-7.*



FOREST HOTEL

The class compares a forest to a hotel. They write essays or draw pictures to explain the differences. Where do the tenants sleep? Where is food prepared? Where is the sewage system? Who lives in the penthouse? *Grades 3-6.*

ALPHABET OBSERVATION HIKE

Each student tries to find twenty-six natural objects, each one beginning with a different letter of the alphabet. Give the kids each a sheet marked off in twenty-six squares on which to draw the objects they find. They may not find objects for all the letters! *Grade 1.*

ALPHABET CHART

Make an alphabet chart by marking off a large sheet of poster board into twenty-six squares, each labeled with a different letter of the alphabet. In each square glue a natural object whose name begins with that square's letter. *Grade 1.*

CONSONANT HUNT

Give each pair of students a card on which you have written the names of some natural objects, leaving out some of the consonants. The students fill in the missing letters and, when they finish, find the objects in the schoolyard and bring them back. *Grades 1-2.*

ALPHABET TONGUE TWISTERS

Here's a good one to try when the class is learning to identify birds or trees or frogs or rocks or fungi or waterfleas -- whatever! If you're studying birds, for example, each student picks a favorite bird and then thinks of modifiers, a verb, and related nouns beginning with the same letter as the bird. He puts all the words together to form a sentence. Voila -- a tongue twister! *Example:* The teeny, tiny, tufted titmouse tripped over the twisted, tangled, tender, trumper-creeper. *Grades 3-7.*

TOUCH AND FEEL HIKE

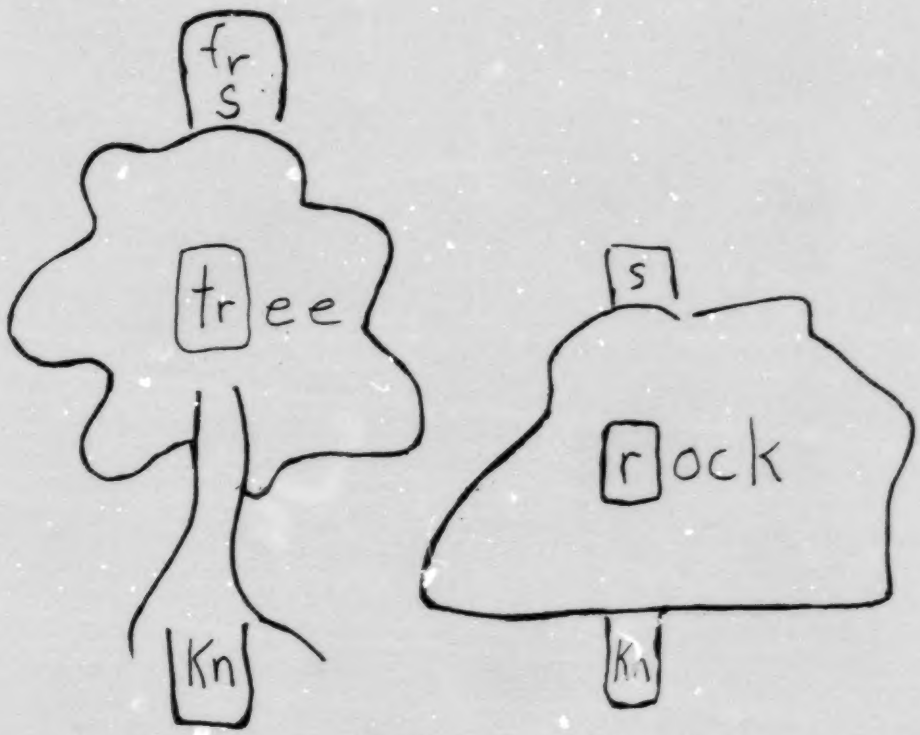
Send the kids to find the hairiest leaf, the smoothest rock, the roughest, the softest, the sharpest . . . When they return, pairs of children test their objects by rubbing them on each other's nose, cheeks, palms, etc., trying to determine which is the smoothest of all, the softest of all, and so on. Set a time limit for each category. (Use a whistle.) *Grades 1-3.*

100 INCH HIKE

Give each student a piece of string one hundred inches long. He stretches the string on the ground, along a fallen log, in a creek bed, peering closely at the scenery it traverses with a magnifying glass. Students may wish to label stop-off points. When they've finished their own trails, they travel along trails set up by others. *Grades 2-5.*

CONSONANT ART

Take the kids outside. Each student sits alone for a while and observes a natural object, e.g., tree, rock, grass. In the classroom each student draws a large picture of his object on poster board. He prints the name of the object on the picture, but cuts out the first consonant (perhaps the first two), leaving a square in its place. Now he takes a long strip of poster board as wide as the square on the picture and prints on it a list of consonants. He makes slits above and below the cut-out square and slips the strip of poster board in between them. The consonants should show in the cut-out square. The student pulls the strip from either end to form new words, combining the consonants on the strip and the wordpart left on the picture. See *examples* below. *Grades 1-2.*



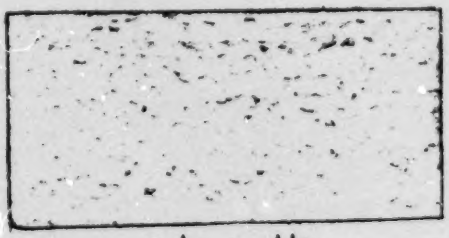
TEXTURE WALK

Take the kids on a walk around the schoolyard to search for different *textures*. The kids make rubbings of the textures. Remind them to label each rubbing with the name of the object they took the rubbing from. To make rubbings, place newsprint or typing paper over the surface of the object (e.g., *sidewalk*); rub gently with a crayon. Following are some ideas for rubbings:

Find

a texture you walk on
a texture unique to the school
a living texture
a texture that expresses a sound in nature
a happy texture
a sad texture
a quiet, peaceful texture
a texture important to a horse
a cold texture
a dead texture
a loving texture
a hateful texture
a texture expressing how you feel
a porous texture
a man-made texture
a very new texture
a very old texture
a dull texture
a texture you can't get on paper -- get it on paper
an early spring texture
an earthy spring texture
an automotive texture
a jealous texture

In the classroom, students think of adjectives to describe their five favorite textures and write them on the rubbings. For example, to describe a *sidewalk*, try pitted, bumpy, gritty, pot-marked. Then they write phrases using the descriptive words to form strings of textured impressions; or, they add the word "like" or "as" to make similes, e.g., "this texture is as bumpy as a rhino's belly-button," "this texture is as cracked as a 100,000 year old mountain." Give them lots of examples before they start writing. *Grades 5-7.*



sidewalk

DESCRIPTIVE RUB

Students find an object that has an interesting texture. They examine it using their sense of touch (rubbing it on their cheeks, noses, toes, etc.). Then they write short descriptive phrases about the object on a sheet of unlined paper. When they finish they make a rubbing of the object on the sheet of paper, so that a design appears above the descriptive phrases. They may have to darken the letters of the words. These sheets make a great bulletin board display. *Grades 1-7.*

I'M GOING ON A NATURE WALK

Take the kids on a short nature walk. Then sit the class in a circle. Tell them, "I'm going on a nature walk to . . . *California.* Give me the answers to my questions with words beginning with the letter 'c'." (Use any letter you wish.) *Grades 1-2.*

Who will go with me?	*Carol*
What will the weather be like?	*Cold*
Where will I stop for lunch?	*Canyon*
What will I eat for lunch?	*Crawdads*
Where will I stay at night?	*Cave*
When will I return?	*Christmas*
What will I find along the way?	*Coke cans*

DARK BOX

Cut a hole in the side of a box and put a natural object inside (pussy willow, milkweed pod, chestnut hull). Make one box for each eight students. In turn, kids feel the object and describe it to the rest of the class. Then they try to guess what the object is. (Warn them that the object may be prickly before they put their hand inside the box.) Record the descriptions on a tape recorder and play them back later. The kids can use the descriptive words they thought of in a short poem, paragraph, or drawing. *Grades 1-3.*

VARIED VIEWS

Ask the class to switch on their imaginations! How many different ways can they describe a natural object. For example, a *leaf* might be a sailboat for a caterpillar, a lunchroom for a tree, an umbrella for a mouse, and the ancestor of a handful of soil. *Grades 4-7.*

LETTERS IN ENVIRONMENT

How many words can the kids make from the letters that make up the word *environment*? (For example, *iron, nine, venom.*) Try other words about the environment, such as *pollution, hydroelectric, dragonfly, petroleum. Grades 2-5.*

NATURE'S REPORTERS

Students are often directed to observe or report on something before they have a firm grasp on the powers of observation. The exercise presented here encourages the development of more observant behavior.

Students pick a natural object or creature to observe secretly. Ask them to record the following information: How tall do you think your object is? How much do you think it weighs? How wide do you think it is? What color is it? Shape? Texture? (Don't answer simply "rough" or "smooth"; be more descriptive ,e.g., "it's gritty like an alligator's teeth.") What does it smell like? How does it taste? Give an example of something that has the same temperature that it does (the air?). Does it make a sound? How does it move? Where does it live? What does it need to grow or remain the same? Is it or could it be useful to plants? How? Is it or could it be useful to animals? How? Is it or could it be useful to people? How? Do you notice anything else about it? Why did you choose this object (or creature)?

When the students have finished writing, ask them to check over their answers and add as much detail as possible. Then, relying on their descriptions, they draw or sketch their object and write a poem or story in the first person (as if they were the object). *Grades 5-7.*

PRESS CONFERENCE

Students study an object or creature in detail, as above, and write a first person description of it. Then they read their description to the class. (They may roleplay the object or creature.) Class members (reporters) will ask questions to determine the identity of each individual.

Remind the students that questions should be phrased with care to ensure that they can be answered. "How many people have tried to step on you?" is a poor question since the student cannot know the answer. "How do you react when human beings come close to you?" is a good question.

Instead of having students read their stories to the class, you may pair students up and have them quiz each other to determine their identities. *Grades 5-7.*

FACT VERSUS OPINION

Talk to the students about the difference between writing the facts and writing opinions. Then students select a newspaper article on an environmental issue and write two paragraphs -- one presenting the facts, the other presenting their opinions concerning the issue. Then they trade paragraphs with a friend. Each student tries to determine what makes the difference between fact and opinion in the other paragraphs. *Grades 5-7.*

MOOD TREES

Try this when you're working with words that describe moods. Each child decides on a certain mood and attempts to find a tree or plant that matches his mood (e.g., angry, sad, determined, tired, flabbergasted, confused, proud). He contemplates his mood object and the feelings it arouses in him. Then he writes a poem or story expressing his mood. *Grades 4-7.*

THE TASTE TEST

A number of edible plants grow in the schoolyard. Take a copy of Euell Gibbons' *Stalking the Healthful Herbs* or Bradford Angier's *Field Guide to Edible Wild Plants* and find them! Wood sorrel is good, but you can even eat grass!

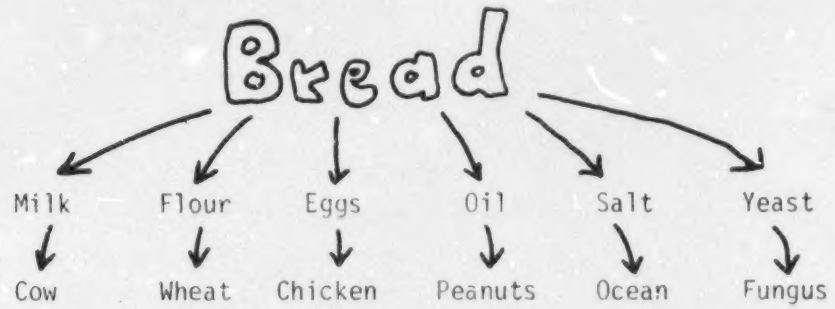
Take the students to a spot where edible wild plants grow and encourage them to taste a bit. Ask them to write a string of impressions of the taste using as many descriptive words as possible. They can compare the taste to other tastes and try to describe what makes it unique. They can pretend they are small insects eating the plant, small animals using it for shade or protection from the rain and accidentally finding it luscious for lunch, etc. *Grades 4-7.*

RECYCLING SORTING CENTER

Collect litter (newspaper, glass, paper containers, kleenex, plastics, aluminum and bimetal cans) in the schoolyard or in the neighborhood and bring it into the classroom. (If the neighborhood is fairly clean, bring some litter from home.) Divide the class into four groups. Label tables placed in the corners of the room with signs reading *Recyclable, Reuseable, Non-Recyclable,* and *Biodegradable.* Let the groups sort the litter, each choosing what is appropriate for its category. Dicuss the reasons for the choices with the groups. When they finish, groups make a list of the ways individuals can cut down on the amount of garbage they generate. *Grades 5-7.*

BREAK DOWN THE ENVIRONMENT

Members of the class draw an object (a loaf of bread, a desk, a piece of p per) and indicate on the drawing a breakdown of its ingredients or materials.



Draw or find pictures to match the words. All the ingredients will eventually lead to the natural environment.

With older kids, try this. Kids make themselves peanut butter and jelly sandwiches and then break down the ingredients to find all the energy it took to come up with those sandwiches! *Grades 1-6.*

WORDS AS THEY SOUND

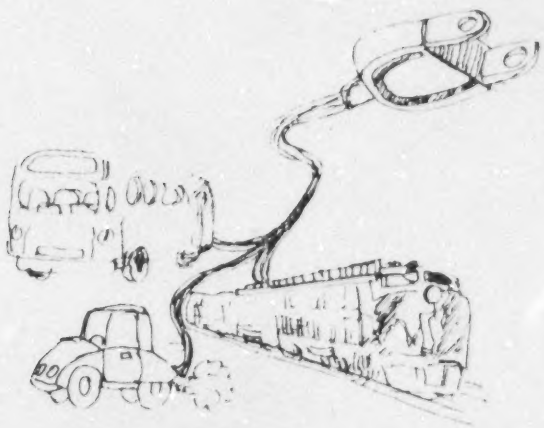
Write some adjectives that could describe objects in the environment on the blackboard. The students draw the words the way they sound. *Grades 3-6.*

ECO-CRAZIES

Give each student a long, thin piece of paper. At the top of the sheet each student writes a phrase about something or the name of something in the environment (e.g., energy crisis, air pollution). He passes his sheet to the person behind him. That person reads the phrase and then draws an illustration of it. He folds over the top of the paper to obscure the phrase, and then passes the sheet to the person behind him. This next person looks at the picture and tries to guess what it is illustrating. He writes down what he thinks it is below the picture, then folds over the paper to cover both the first phrase and the picture, and passes it to the next person. The next person draws a new picture from the new phrase -- and so it goes until the sheet is filled up. When everyone has finished, unfold the sheets and pass them around. Some of them will be really crazy, and the kids will get a kick out of tracing the changes from phrase to illustration to phrase. Afterwards the kids copy down phrases they especially like to use in other language activities. *Grades 5-7.*

ENERGY COLLAGE

Each student finds five pictures that show something to do with energy. Students form small groups and make collages from the pictures. They organize pictures that have something in common and label the categories they decide on. Sample categories are *How We Get Energy, How We Move Energy, How We Store Energy, How We Use Energy,* and *Byproducts of Energy. Grades 5-7.*



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SCAVENGER HUNTS

Organize a scavenger hunt for your students, either to introduce new words or as a review. Scavenger hunts make vocabulary words come alive!

The items for three scavenger hunts are listed below. The first is applicable to the primary grades, the second to the middle grades, and the third to the upper grades. Of course, you can combine them in any way you think suits your students. Following these is a scavenger hunt using the vocabulary for tree identification. *Grades 1-7.*

Primary

Send the students to find

Something square.
Something round.
Something triangular.
Something that smells good.
Something that smells bad.
Something red.
Something brown.
Something yellow.
Something orange.
Something green.
Something that feels scratchy.
Something that feels like rabbit ears.
Something that feels glassy.
Something that feels hard.
Something that feels warty.
Two different leaves.
A bird feather.
A nut.
Pine needles.
Something wet.

Middle

Send the students to find

Something that helps make soil.
A hitch-hiker.
Something with a strong smell.
Bird food.
Squirrel food.
Three geometric shapes.
Something that tickles.
Something prickly.
Something sharp.
Something blunt.
Something longer than 10 cm.
Something shorter than 10 cm.
Something older than you.
Something younger than you.
Two different kinds of soil.
Six different deciduous leaves.
Two different fossils.
A hole.
A live insect.
Something that is rotting.
Two seeds that are transported in different ways.
Something that is the beginning for a good chain.
Something that shows man's carelessness.
Something hollow.
Something dead.

Send the students to bring back

A small thing waiting to grow into something bigger.
An animal which recycles nature's waste.
A color which captures sun energy.
An animal that lives in dark places.
A twig with opposite branches.
A small plant that floats on the water in a puddle or small pond.
An animal eaten by another animal (when it's caught).
A plant (plant part) that hitches a ride.
Two plants that live together.
A hiding place for a small animal.
A plant that doesn't make its own food.
An animal that eats plants.
An animal that crawls but will change to one that flies.
The smallest bit of life that makes food from sunlight energy.

Upper

Send the students to find

Something that is part of a cloud.
Something that proves an animal lives here.
A producer.
A lichen that looks like reindeer antlers.
A crawling critter.
A question the others can't answer.
Something in nature that serves no purpose and is not man-made.
A fungus.
Crystallized precipitation.
A consumer.
A complex natural design.
A decomposer.
Something that no one has ever seen before. Prove it!
Something that proves a glacier was here.
A simple machine.
A sweet taste.
A sour taste.
Three primary colors and two secondary colors.
One sound.
An example of biodegradable litter being degraded.
A hard fruit.
Something that deer (or any animal) eat.
The mother of a seed.

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Tree Identification

Send the students to bring back

A twig with opposite branches.
A twig with alternate branches.
A leaf with many small saw teeth.
A leaf without any teeth.
A leaf that is very long and narrow but flat.
A leaf that is almost round.
A leaf that has sharp lobes.
A leaf that has rounded lobes.
A long needle leaf that grows in a bundle of five.
A long needle leaf that grows in a bundle of two.
A short needle leaf that grows in a bundle of two.
A needle cluster of 12-25 all growing from one bundle or base.
A needle that grows without bundles and is flat.
A needle that grows without bundles and rolls in your hand.
A twig of tiny overlapping scalelike leaves.
A flat leaf that is large and heart-shaped.
A leaf that is a collection of many small leaves (compound leaf).
A leaf stem that is flat.
A twig that tastes like wintergreen.
A cluster of red fuzzy fruit from the top of a shrub with furry twigs.
A twig with small thorns
A twig with very long sharp thorns.
A bit of white papery bark. (Don't cut the bark to get it!)
A bit of grey-yellow papery bark. (Don't cut the bark to get it!)
An acorn or acorn fragment.
A tree seed with a wing that is too long.
A tree seed with a flat wing around the seed.
A tree seed like cotton down or dandelion fuzz.
A long flexible cone.
A stubby tough cone.
A small soft cone.
A cone-like fruit on a broadleaf shrub.
A long hanging "flower" from a shrub or tree.
A leaf with veins all coming from a long mid-vein.
A leaf with veins coming out mainly from the base.
A leaf with a few large teeth but not lobed.
A leaf with teeth that also have teeth.
A twig with corky wings.
A twig with thiny woody walls and much pitch inside.
A leaf with lobes that are very deep.
A leaf with lobes that are very shallow.
Something that looks like a leaf but has small fruit balls hanging from it.

SPEECH AND DRAMATICS

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CREATIVE MOVEMENT/DRAMATICS

Creative movement/dramatics helps kids leave the "me" for a bit and become the "you." It encourages them to listen, observe, and react to the environment, and it brings out a zest for living.

Younger children slide right into the "beingness" of creative movement/dramatics, but older children can be hesitant if they're given the chance. However, I've done many of these activities successfully with sixth and seventh graders, so give it a try! Older kids especially like "Nature Dramas" and 'Mirror Reflections."

A good way to begin is to encourage the entire class to pantomime certain movements, actions, or impressions. Since everyone is participating, there's no threat posed by an audience or a spotlight, and no one should be afraid of making mistakes.

* Flutter like snowflakes to the ground.

* Be an icicle melting in the sun.

* Sway in the wind like a birch tree.

* Walk on pebbles.

* Slide like a worm under the ground and up to the surface.

* Be a frog trying to catch a fly.

* Walk like a chicken, a praying mantis, or an aardvark. Crawl like a snake. Tape your thumbs to your fingers and spend a day like a raccoon.

* Act like a wild animal caught in a trap. Act the way a wild animal would if it had a sore paw or a sore shoulder, if it were hungry or caught in a forest fire or picked up by a human being.

* Imagine you come across a deep, fast flowing stream. How would you get over it if you were an ant? a worm? a bobcat? a person?

* Be a fish unable to breathe because the water is polluted.

* Be a tire who would rather be recycled than thrown away.

* Be a rock turning to soil. Then be part of the field that the farmer plows and plants. Then be the field as it is eroded and washed to the sea.

* Plant yourself in the ground like a tiny seed. Send out roots, poke out a stem, and then sprout leaves, branches, and bigger roots. Grow into a maple or a magnolia or anything you want.

* Be a tiny seed and grow into your favorite plant. See if the class can guess which plant you've become.

* Grow slowly like a mushroom, one finger at a time, then your hand, and then explode onto the ground.

* Eat a leaf like a caterpillar. Spin a cocoon for yourself and slowly develop into a butterfly. Emerge from your cocoon as a full-fledged butterfly.

* Be a little bird inside an egg just ready to hatch. Peck out the shell with your egg tooth and then pop out into the nest.

* Fall like raindrops to the ground. The whole class can roll together to form small puddles, and the puddles can become a stream flowing quickly downhill.

* Curl up like a piece of bubblegum. You are unwrapped, chewed, cracked and snapped, blown into a bubble and popped. You get old and stale and you're thrown on the sidewalk. You stick to someone's shoe and then you're scraped onto the curb.

* Flap like a wet sheet on the clothesline. The sun dries you out and makes you stiff. The wind blows and the rain starts to fall. You're wet and limp again, and you finally fall to to the ground.

* Change your shape. Be a tree and slowly turn into a bird. Be a square and slowly turn into a circle.

Encourage the kids to think of creative movement ideas of their own. Some kids can pantomime actions while others (small groups or the whole class) can guess what they're doing.

After the class is comfortable with large group movements, break them into pairs.

* Lift a heavy log together and put it on the fire.

* One partner helps the other remove his heavy hiking boots.

* Express opposites. One partner is smooth and the other is rough. Try wet/dry, high/low, grumpy/happy.

* *Mirror Reflections.* One partner copies what the other does. They hold up their palms five inches apart. Everything one palm does the opposing palm must do. Mirror brushing teeth, doing a dance, smiling. One partner can be a snake smelling the air and the other can mirror his actions.

Work in groups of three or four.

* Try triple mirror reflections.

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* Play a silent ball game. Play a silent ball game with animals as the players.

* Sit in a circle. One member pretends to sculpt a natural object out of clay. He passes it to the next person who pantomimes a use for what he thinks the object is. Then he makes something new out of the imaginary clay and passes the new object to the next person. The next person follows the same pattern.

* Kids can join together to form a flower or a bird. One child can be the photographer who snaps pictures of the others' poses.

* Give one member of the group an object. He pantomimes the different things it can become while the other members guess what he's trying to express. For example, a rock can become an electric shaver, a stale dinner roll, or an ostrich egg.

Nature's Dramas. Small groups of 3-4 and larger groups of 5-7 can develop natural dramas while other groups guess what is happening. After kids participate in a few skits, they'll come up with their own ideas for others.

* Pick a natural community (a pond, a meadow, or a pine woods). Each child can pantomime an activity that occurs there. For example, if the pond is chosen, children could pantomime a fish swallowing a smaller fish, a redwing blackbird landing in the cattails, a water strider, a beaver building his dam, bacteria decaying on the bottom of the pond, methane gas bubbling from decomposition.

* Pick an ecological concept and act it out. For example, if succession is chosen, children could pantomime grasses in a meadow. Then, in turn, seeds from cedar trees are blown in and sprout, climax trees grow tall and shade the cedar trees, climax trees die, decay, and turn to soil.

* Act out some instance of the harm man can do to the environment. For example, if a forest fire is chosen, one child could pretend to drop a burning cigarette on the ground. Another child becomes that glowing cigarette, and he turns into fire as he hits the ground. He races towards other kids (trees) who rip off their jackets because of the heat.

IMPROVISE INVENTION BOX

Fill a large box with natural objects (pine cones, rocks, twigs, etc.). Small groups of children select objects from the box without being able to see them, and then invent skits using the objects they've selected. *Grades 3-7.*

ECO NEWS

Pass out some newspaper articles about environmental issues. Ask small groups of children to act out an article. Allow 20-30 minutes for them to read the article and create their skit. *Grades 6-7.*

PEOPLE MACHINE

Divide the class into groups of 7-8. Tell them to get ready to fire up their people machines. Each child will be a machine part. He can move his arms, rotate his head, or crank his knees up and down, etc., and make corresponding sounds.

Choose one child to be the starter of the machine. Add other children at different speeds until the machine is completed. Speed the machine up and slow it down. Ask one or two children to pantomime pollution. Let the parts break down one by one until the machine is stilled. *Grades 1-6.*

YEAR 3000

Ask small groups of kids to create future life skits. If two groups work together, one group acts out a present-day scene while the other group acts out the same scene in the year 3000. *Grades 4-7.*

WANTS VERSUS NEEDS

Break the class into two groups. Members of one group create skits expressing the "needs" we must fulfill in our daily lives, and members of the other group act out the "wants" we decide to fulfill. Discuss how the skits relate to our own lifestyles. Stress the importance of finding the balance between wants and needs for the sake of the environment. *Grades 5-7.*

SURPRISE BOX

Every day let one child bring in a secret natural object to put in a "surprise box." Ask him to describe his object to the class. Class members are allowed three chances to guess what it is. Children love to tell others about their favorite objects, and interesting discussions can result from what they bring in. *Grades 1-2.*

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STEPPING OFF ENERGY

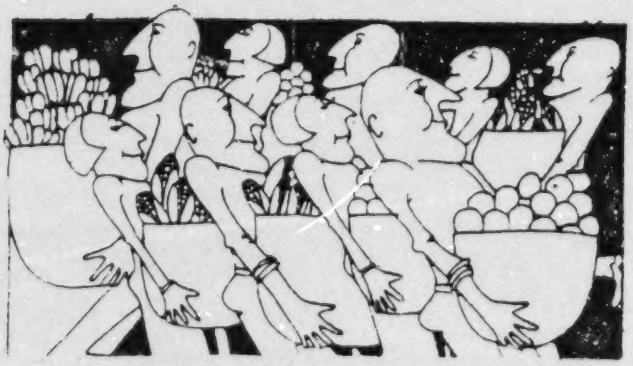
Illustrated below are four different routes a vegetable can take from the garden to the dinner table. Discuss with the class the amount of energy we use in everyday life, and then ask groups of children to pantomime the steps in each route while other class members guess what is happening. When the skits have been presented, discuss which group used the most energy. *Grades 1-3.*

You eat it
You grow a vegetable

You eat it
You cook it
You grow a vegetable in your garden

You eat it
You cook it
You drive to the market to buy it
The market refrigerates it
Someone transports it to the market
Someone grows a vegetable

You cook it
You throw away the package
You thaw it and cook it
You put it in your freezer
You drive to the market to buy it
The market freezes it
A refrigerated truck takes it to the market
It's frozen
It's sliced by a machine
It's transported to a processing plant
Someone grows a vegetable



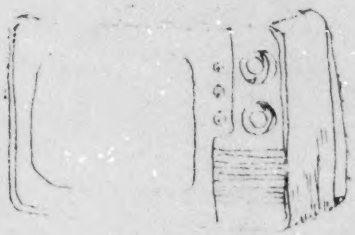
GLUT UNGLUT

A glut is someone who pollutes without thinking. Most of us are gluts at one time or another. Discuss glut-type behavior and ways to overcome it with the class. Then small groups of kids pantomime Mr. and Mrs. Average and their children in the following situations as they (1) show glut-type behavior and (2) choose a pollution-wise alternative. Make masks for the characters to wear or let the kids use puppets. The rest of the class guesses the activity in each scene. Encourage the kids to think up new situations of their own. *Grades 1-6.*

Mrs. Average keeps her house very clean.

GLUT: She uses many paper towels.

UNGLUT: She makes a rag bag and fills it with old clothes, towels, and sheets.



Sister Sue is watching television.

GLUT: She goes outside to play and leaves the television on.

UNGLUT: She remembers to turn the set off before she leaves the room.

Brother Ben is taking a shower.

GLUT: He uses gallons and gallons of water.

UNGLUT: He runs enough water to get wet, soaps his body, and turns the water on again to rinse off.

(Glut examples come from *Fun With the Environment*, a free publication of the Environmental Protection Agency, Washington, DC 20460.)

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ENVIRONMENTAL PICTURE BOOK

Kids cut environmental pictures out of magazines, paste them on sheets of paper, and make them into books. They share their books with a partner and invent dialog to match the pictures. *Grades 1-2.*

CRITTER CHARADES

Carry cans and nets to a nearby pond or stream and collect aquatic critters. (You'll find lots of them in the mud at the bottom.) Put them in observation containers made from half gallon milk cartons sliced in half. Each child chooses a favorite to observe secretly. In turn, the children pantomime the actions of their critters while the others in the class attempt to guess the critters' identities. *Grades 1-6.*

CRITTER CREATIONS

Collect aquatic critters and ask each child to choose a favorite, just as you did for "Critter Charades." Each child imagines his critter in a setting other than the pond or stream and draws the adaptations its body would have to make to survive. Try the North Pole or the desert. How about a down jacket for a water spider or ear muffs for a dragonfly? Each child shows his drawing to the class and explains the features of his "new" critter. *Grades 1-6.*

ORAL BOOK REPORTS ON ECOLOGY SUBJECTS

1. Students write a television commercial selling points of the book.
2. Students dress as a character or object in the book. They explain their role and their connection with ecology to the class. (Be a germ, carbon monoxide, sludge ...)
3. Students use puppets to demonstrate the good and bad aspects of an ecological issue discussed in the book.
4. One student is the author of the book. Another is a reporter conducting an interview with him.
5. Students give their reviews to small groups of kids.
6. Students tape their favorite parts of the book and illustrate them with drawn or cut-out illustrations. *Grades 2-6.*

ENVIRONMENTAL DEBATES

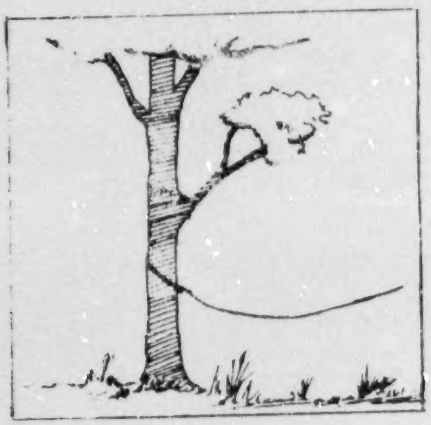
Stage debates between groups in the class. Try solar energy (or geothermal energy) versus gas and coal or nuclear fuel. How about wilderness preservation versus public campground development? *Grades 6-7.*

HOT WIRE

Divide the class into groups of 10-12. Tie a string or rope between two trees about four feet off the ground. Tell the kids that it is an electrified wire and challenge them to get everyone in the group over it. Of course, they can't touch either the wire or the trees to which it is attached or they'll be zapped!

Here are some additional rules: Once a person is over the wire, he may assist others. He may not go over to the other side; however, his knees and arms can go over or under the wire. If a person is zapped, he must try again.

Like "The Monster," this activity lends itself to pre- and post-activity discussion. Before the activity, discuss tactics. How is the group going to cooperate to complete the task? After the activity, discuss what went wrong and why. If the task isn't completed, figure out why and try again! *Grades 4-7.*



THE MONSTER

Divide the class into groups of 8-10. Members of each group put their body parts together to form a roving monster. All parts must be connected. The monster may have five feet and one third of all hands touching the floor, and he must be able to move five feet without toppling over.

Before they form the monster, tell the kids to discuss what tactics they will use to do so. If they haven't formed the monster in fifteen minutes, interrupt them and ask the following questions: Who's taking over leadership? Is he directing or is he pooling ideas? Is it working? Are others cooperating or are they rebelling and either attempting to lead themselves or going off to climb a tree? Was anyone left out of the conversation at the beginning? Has the group split? Was there enough pre-activity discussion? Tell them to discuss their plans and see if things couldn't be worked out a little better. Kids generally contribute enthusiastically to pre-activity and post-activity discussion of group dynamics. *Grades 4-7.*

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ECO SONGS

Children select popular songs which reflect attitudes toward the environment. They tape the songs and conduct a short class presentation, discussing the song's theme and the attitude and priorities of the writer as opposed to their own feelings. As an example, use Cat Steven's "Where Do the Children Play?" *Grades 6-7.*

CONSERVATION DESIGN

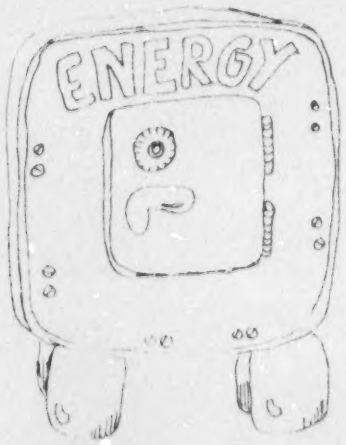
Divide the class into small groups. Each group represents an individual (a poet, a playwright, a producer of animated cartoons, a marionettist, etc.) with ideas about how to encourage people to conserve a natural resource. Let children join the groups which match their interests. Each group uses its particular expertise to develop a plan for conservation education. They present their plan and a concrete example in the form of a poem, a play, a cartoon, etc., to the rest of the class. *Grades 4-7.*

ENERGY SAVERS I

Each child creates and draws an energy saver and presents it to the class for discussion. Tell the children to let their imaginations run wild! How about a car that uses mulberry leaves and coffee grounds for fuel? Make sure they know real inventions aren't that easy. *Grades 1-3.*

ENERGY SAVERS II

Divide the class into groups of four. Each group creates an energy saver and thinks of a way to publicize it. One member of the group is a designer, another is an artist, the third is a communications specialist, and the last is a public relations expert. After the groups have had ample opportunity to discuss their plans, they present a drawing of the energy saver and a proposal for publicizing it to the rest of the class. *Grades 4-7.*



SIMULATION GAMES

Simulation involves action. You put yourself in the here and now and you portray real life situations. It's fun! Even shy students find themselves talking with classmates like they never have before.

There's a lot of role playing in the simulation games that follow. Kids will experience many different viewpoints on environmental problem issues. By stepping into another's shoes, they'll begin to realize that there isn't always one answer and that issues are often more complicated than they seem.

CENTERPLACE LAND USE PROBLEM

Give the students the map of Centerplace City and the surrounding area, the background information (see next page) and the following problem:

There is one square mile of unused county farmland fourteen miles northeast of Centerplace City. How can the land be used to meet the needs of the local people?

Ask the class to list possible uses for the land. Group the uses into categories such as recreation, industrial, utilities, housing, commercial ...

Then divide the class into teams comprising 6-8 people and assign each team a category to represent. For 10-14 minutes, the teams analyze and list possible consequences (advantages and disadvantages to the land and people) of developing the land to meet the needs of their particular group.

Then tell them they must come up with a plan for developing the land and a presentation for the County Board of Commissioners. Give them 20-25 minutes to work on their proposal and a visual display.

After the teams have been working on this for ten minutes, choose one person from each team to be a member of the County Board of Commissioners. The Board will hear all the presentations and will choose the one which they think best fits the needs of the community. Members of the Board go to another part of the room to select a chairperson and develop criteria to evaluate the proposals.

When the time is up, the Board listens to the presentations and then retires to its meeting area for 5-10 minutes to make a decision. Members of the Board give the class their decision, the criteria used to make the decision, and the reasons for their selection.

Ask the class if they think members of the Board could have used more information to help them make the *best* decision. What additional data could have been provided? (topography, vegetation, the economy of the area, railroad, adjacent land, climate, soil survey, flood plain, interest of board of control, money available, educational needs, etc.)

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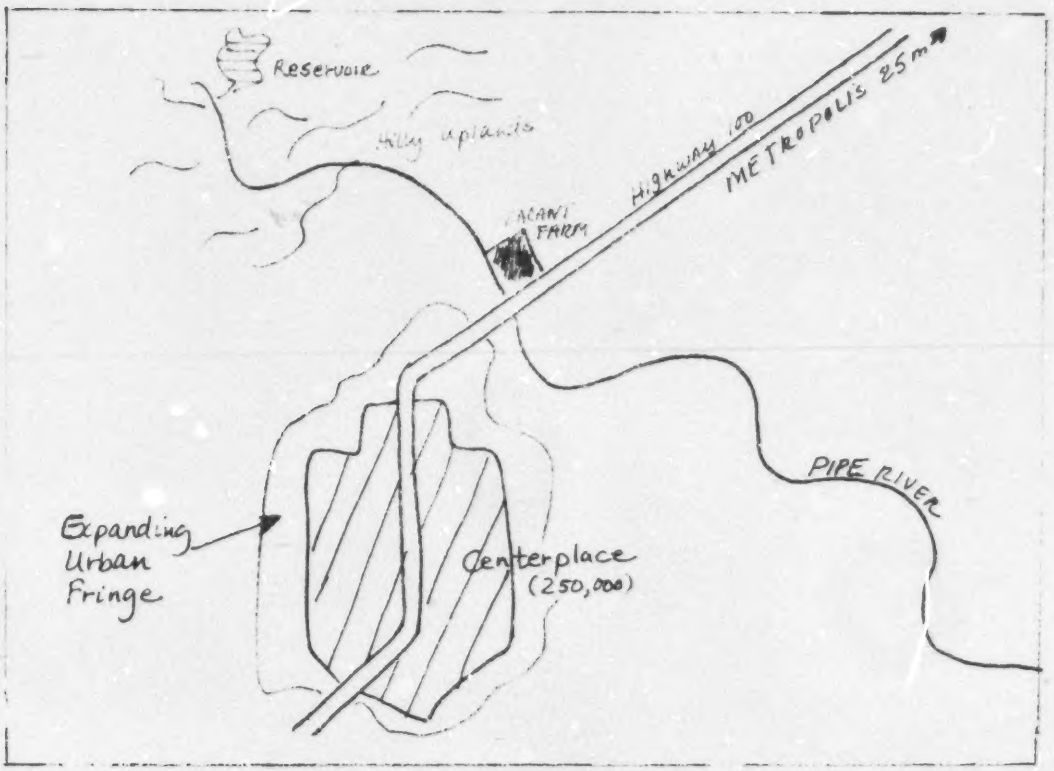
Centerplace City



Background Information

1. The population of Centerplace City is 250,000 and increasing. There are demands for more jobs, housing, city services, and recreational areas.
2. Power for industrial uses, adequate public transportation, and a skilled labor force are available.
3. The city is near forests to the north.
4. The land to the east is farmland.
5. The unpolluted Pipe River is a water supply for the city and irrigation.
6. The river is too small for freight transportation, but logs may be floated down it.
7. Concrete can be made from the gravel bed of the river.
8. Sewage and garbage systems are at a maximum capacity.
9. Citizens are concerned about the maintenance of the scenic environment.
10. The County Board of Control authorizes land zoning.

Make sure the kids have learned that we need a variety of information before we can make the best land management or environmental decision, the one which best meets the needs of the people and of the environment.

After the activity is concluded, discuss group interaction with the class. What leaderships formed in each group? Was a leader necessary? What would have happened without one? How well did each team work as a group? Did everyone get a chance to give his opinion? What caused some kids to keep quiet, others to dominate, etc.? *Grades 6-7.*

(The Centerplace City situation was taken from the series *Investigating Your Environment*, U.S. Forest Service, Portland, Oregon.)

FUR COAT

Environmentalists are angry because the U.S. government allows hunters on the coast of Alaska to club and slaughter young seals for their coats. The environmentalists feel that killing seals to provide "luxury pelts that pander to the fancies of a minute segment of the world's population is hardly worthy of government sanction." The government allows the hunters to kill the seals during a six month period of each year. Most of the Eskimos on the coastal areas where the seals live earn their income from harvesting the seal pelts.

The Pelt Fur Company processes many of the pelts and is therefore under attack by the environmentalists. The company claims that the environmentalists are reacting emotionally and are unaware of certain facts involved in the situation. Seals must be managed just like deer populations. Without management, overcrowding would result, causing painful deaths by disease, starvation, and injuries. The company also notes that many Alaskans would be on welfare if they weren't permitted to harvest the seals.

A well-known marine biologist, Dr. Archibald Macalester, has testified that some of the "facts" presented by the Pelt Fur Company are erroneous. The company has failed to mention that young female seals are being killed in the program, a taboo policy for any controlled killing project designed to benefit wildlife populations. As for overcrowding, seals always bunch together on mating grounds regardless of numbers so effects of overcrowding cannot be managed. Natural management occurs when nearly half the young seals die from natural causes during their first two years of life.

A Congressional committee has decided to hold hearings in order to clear up the controversy over seal "harvesting."

Divide the class into groups of 5-6 and ask each group to represent one of the following. Members of each group will roleplay individuals in their category before the Congressional committee hearing.

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1. Representatives of the Pelt Fur Company.
2. Representatives of ecological groups.
3. Members of an Eskimo tribe.
4. Officials of the community where the Pelt Fur Company's plant is located.
5. Dr. Macalester and other marine biologists.
6. Members of the Congressional committee.

Give each group 20-25 minutes to come up with a testimony presenting their views on the situation. The committee members can use this time to elect a chairperson and set up criteria for decision making.

The chairperson opens the hearing. Each faction presents its case. The committee will ask questions when appropriate and adjourn the hearing when all have been heard. No decision is made by the committee.

Hold a group discussion. Ask students to express their real opinions on the matter. *Grades 6-7.*

(The "Fur Coat" activity is from *Deciding How to Live on Spaceship Earth*, by Rodney Allen, Carmelo Foti, Daniel Ulrich, and Steven Woolard (Evanston, IL: McDougal, Littell & Company, 1975).)

MIDDLETOWN

Many citizens of Middletown (population 5,000) are afraid their community will turn into a ghost town. Half of the adults are employed in the town's large paper mill, and most of the people are dependent on it in some way. There is a possibility that the plant will be closed down for violation of state anti-pollution statutes.

The town was dying the the 1920's when the plant came in and brought prosperity. During the depression, it kept the town going. Taxes paid by the plant supported a responsive municipal government and a fine school system, and its contributions enabled the town to build a hospital, library, and swimming pool. Company officials have taken active roles in civic associations, and plant workers serve in many city government posts.

Nevertheless, the plant does pollute. The air is fouled by the yellow sulfurous discharge, and the river is the outlet for the black ooze from the pulping process. People in the outlying counties have complained, but nothing was ever done. Three years ago the state forced the company to install five million dollars worth of anti-pollution equipment, but the equipment never really worked well. Then, because of low paper prices and the high cost of maintaining the pollution control equipment, the company went bankrupt.

Last year an outfit of local people bought the plant and got it going again. However, the air and water which had cleared up with the closing of the plant soon were filthy. The people in downstream and downwind areas and in the surrounding county grew very angry. They are clamoring for more stringent anti-pollution laws to protect the environment. The townspeople want the laws repealed.

A committee from the state legislature will conduct hearings on the controversy in an attempt to resolve it.

Divide the class into groups of 5-6 and ask each group to represent one of the following. Members of each group will roleplay individuals in their category before the legislative committee. Conduct the hearing similarly to the "Fur Coat" activity.

1. Employees from the plant. Some of them may have children or parents to support.
2. Local businessmen whose survival depends on the plant.
3. The mayor and members of the town council. They point out the benefits the company brings to the town through taxes.
4. Residents from the county not dependent on the plant.
5. The owner of a campground downstream from the plant.

Grades 6-7

(The "Middletown" activity is from *Deciding How to Live on Spaceship Earth*, by Rodney Allen, Carmelo Foti, Daniel Ulrich, and Steven Woolard (Evanston, IL: McDougal, Littell & Company, 1975).)

MAN AND HIS LAND

Show the class a picture of a stripped, mined, and greatly eroded area. Spend a few minutes discussing it.

Each student lists reasons for the existence of the activity causing the changes in the formation of the land. He places plusses by reasons he thinks are good and minuses by reasons he thinks are bad.

Ask the students to roleplay (1) an adult, (2) an executive in a steel company, (3) a farmer, (4) a steelworker, or (5) a poet or a landscape painter. Would the plusses and minuses be different?

Ask students to express their emotions to the class through the medium they'd use if they were (1) a song writer, (2) a newspaper reporter, (3) a pro-football player, (4) a welfare recipient, (5) a U.S. senator, (6) a priest, rabbi, or minister, or (7) a college student. *Grades 6-7.*

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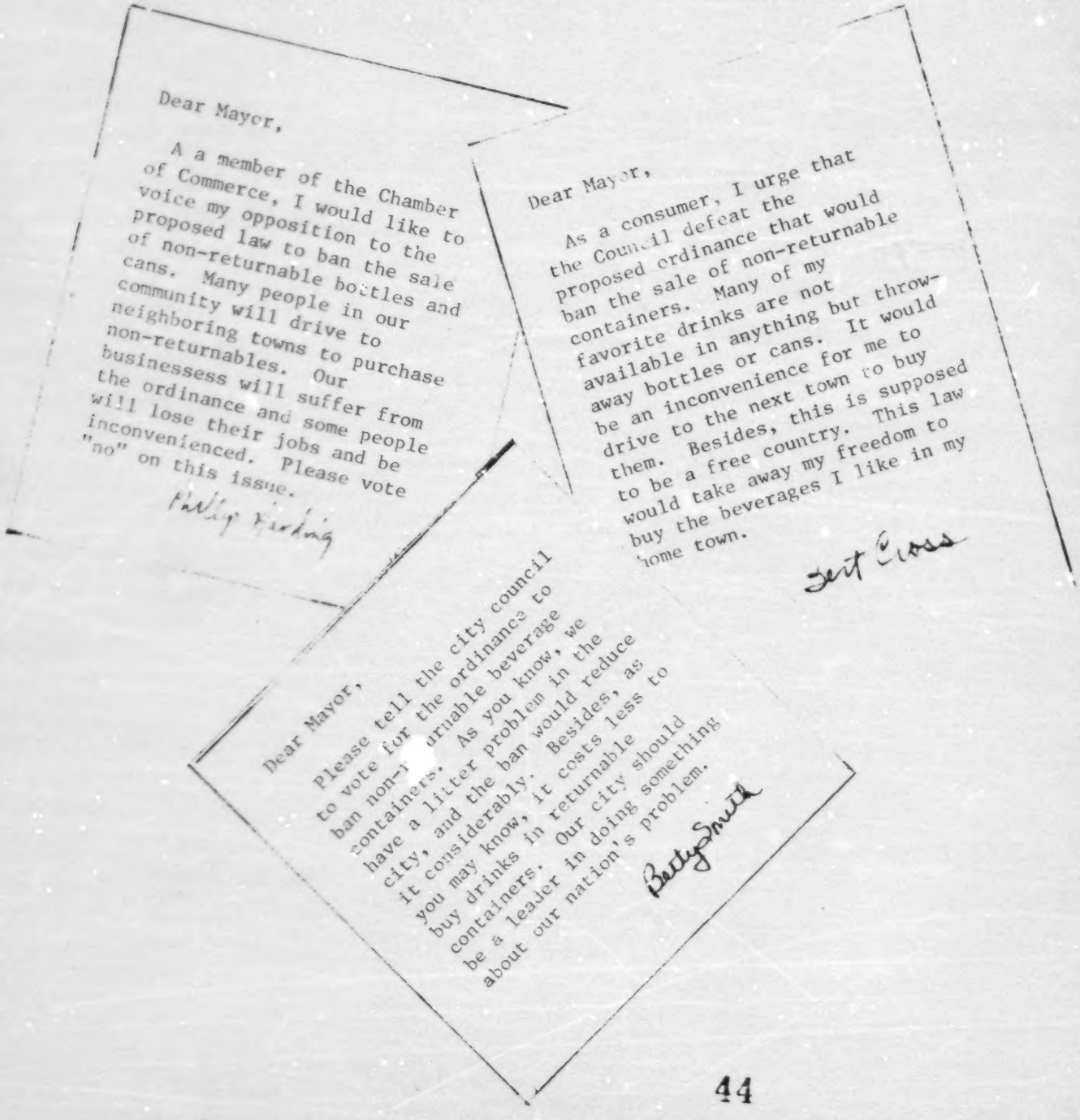
DO WE THROW THEM AWAY OR NOT?

A city council meeting is called to vote on an ordinance to ban the sale of non-returnable beverage containers. The mayor reads the letters received from three concerned citizens before the vote is taken. (These letters are reproduced below.)

Groups of students roleplay the three letter writers, other concerned citizens, and the members of the city council. Each group tries to explain their positions clearly to the rest of the class. When all the groups have been heard, the council adjourns and votes on the issue.



Dear Mayor,

A a member of the Chamber of Commerce, I would like to voice my opposition to the proposed law to ban the sale of non-returnable bottles and cans. Many people in our community will drive to neighboring towns to purchase non-returnables. Our businessess will suffer from the ordinance and some people will lose their jobs and be inconvenienced. Please vote "no" on this issue.

Phillip Harding

Dear Mayor,

As a consumer, I urge that the Council defeat the proposed ordinance that would ban the sale of non-returnable containers. Many of my favorite drinks are not available in anything but throw-away bottles or cans. It would be an inconvenience for me to drive to the next town to buy them. Besides, this is supposed to be a free country. This law would take away my freedom to buy the beverages I like in my home town.

Jeff Cross

Dear Mayor,

Please tell the city council to vote for the ordinance to ban non-returnable beverage containers. As you know, we have a litter problem in the city, and the ban would reduce it considerably. Besides, as you may know, it costs less to buy drinks in returnable containers. Our city should be a leader in doing something about our nation's problem.

Betty Smith

VALUES CLARIFICATION

Children are exposed to various value systems every day of their lives -- values involving the environment as well as everything else. They see their parents reacting in one way to situations, their neighbors in another, and their teenage brothers and sisters in a third. Traditional ways of instilling values (setting examples, persuading, limiting choices, establishing rules) do not always work. Children need to form their own values and develop a valuing process.

Values clarification activities are specifically designed to give children the opportunity to express current values without being judged on what they say. If their values are not formed yet, they can start thinking about how they view certain life situations; they can examine positions of issues in detail and from many different aspects.

Valuing involves many processes. Seven of them are listed below:

Valuing involves
- choosing freely
- considering alternatives
- examining consequences of alternatives
- being proud of your choice
- sharing your convictions with others
- acting according to your choice
- incorporating your new behavior into your life pattern

Many of the activities in this booklet involve expressing values. The ones of the following pages are expressly designed for that purpose.

Adjust the issues involved, and values clarification activities can be used in all grade levels.

AUTOBIOGRAPHICAL QUESTIONNAIRE

Construct questions which give students the opportunity to examine their behavior regarding pollution. Students respond in writing. Discuss answers with the class. *Examples:*

Have you ever
- thrown refuse on the ground or on the water?
- picked up litter from the ground?
- burned trash outside?
- donated time or money to an environmental organization?
- asked your mother to change her laundry detergent to a less harmful one?
- written a letter to a government official expressing your position on an environmental issue?

(From *Teaching Environmental Education with a Focus on Values*, by Clifford E. Knapp)

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OPEN-ENDED QUESTIONS

Write open-ended questions on the board. Students respond in writing. Discuss answers with the class. *Examples:*

1. If I had the power to correct one environmental problem, I would choose . . .
2. The best way to reduce noise in my community is to . . .
3. I would rather live with a little pollution than . . .
4. The laws regulating pollution should be . . .

RANK ORDERING

Students rank words or statements in order of preference. Discuss why students have different opinions. *Examples:*

Your community has a small budget to spend on the litter problem. Rank the following proposals:

1. Purchase litter containers
2. Place no littering signs in strategic places
3. Hire someone to pick up litter

Your community is going to buy machinery to recycle one of the following. How would you rank them?

1. Paper
2. Glass
3. Aluminum

Suppose you could "wish away" one kind of pollution. How would you rank the following?

1. Air pollution
2. Radioactive pollution
3. Water pollution

PERSONAL PREFERENCE INDICATOR

Tell the students that what we choose to use in our daily lives reveals a great deal about our values and our opinions. Ask them which of the following they prefer:

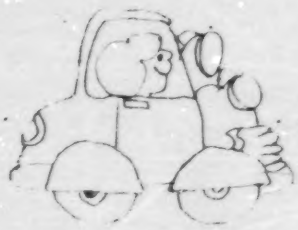
A regular toothbrush or an electric toothbrush?
Riding in a bicycle or riding in a car?
Using a fan or using an air conditioner?
Fuel oil heat or electric heat?
Riding in a Ford Fiesta or riding in a Lincoln Mark IV?
Taking a train or taking a jet?

Ask them to explain why they prefer one over the other? Can they tell you how their choices reflect their lifestyle? Is the environment endangered because of their choices?

VALUES CONTINUUMS

Draw a line on the board or designate an area of the room to be used as a continuum line. Present an issue. Students will indicate where they stand on the issue by marking on the line on the board or by standing on the continuum line. One end of the line will be *agree* and the other end will be *disagree*. Students with opinions or values between the two extremes will mark or choose their place in line according to whether they are close to agree, closer to disagree, or middle-of-the-road. Discuss the issues after the continuums have been formed.

Returnable Ron Uses only returnable containers. Will not use any throwaways.	*No Deposit Norris* Uses only throwaways. Feels returnables are too much trouble.
Pure Air Paul Takes short breaths so he won't add as much carbon dioxide to the air.	*Polluted Polly* Smokes like a fiend. Burns cigarettes for incense.
Let Live Larry Will not use pesticides. Allows mosquitos to bite him.	*Pesticide Pete* Sprays his house and backyard daily to get rid of insects.
Robust Robert Lives in a self-sufficient world. Uses no cars, no gadgets, no electricity.	*Space Age Sally* Lives in a totally automated world. Doesn't even walk for herself.



(From *Teaching Environmental Education with a Focus on Values*, by Clifford E. Knapp)

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WHAT WOULD YOU DO?

Divide the class into small groups and assign each a situation (examples follow). Give them fifteen minutes to discuss it. Each group member explains to his group what his reactions would be if he were the main character in the situation. When the time is up, the groups present their situation to the class and describe the reactions of the group members.

Fire and Water

A local power company has been a known polluter of water. Over the past two years it has cut down on pollution drastically, although it has still done nothing about thermal pollution. This month the company has asked an artist to design an ad reporting its clean-up campaign to the public. The artist notes that the script for the ad implies the company has reduced its thermal pollution. He knows this isn't true. What should he do?

Conduct Unbecoming

The USS Ethan Allan discharges thousands of gallons of radioactive pollution into the ocean periodically which contaminates fish and kills plankton. If you served on this vessel and were ordered to dump this water, what would you do?

Fences and Neighbors

A farmer has complained to the Goodbody Coal Company that the spoil pile from their strip mining is too high. Everytime it rains, the spoil is washed onto his land, damaging his property. The foreman admitted to the company president that this was true. He told them to forget it since the farmer would never have the money to sue them. If you were working on the mining crew, and found this to be so, what would you do?

Device Advice

Bill James purchased ten new trucks for his small transportation company. They were more expensive than his older trucks since they had new pollution control devices installed. To cut costs his chief mechanic suggested they dismantle the pollution control devices after each state inspection. They would save on repairing and maintaining the control devices and also on fuel. Bill wonders what to do. His margin of profit in the company is slim and he wants to survive. What are your suggestions?

HOW DO YOU FEEL?

Answer the questions below by

a completely disagree
b mostly disagree
c slightly disagree
d slightly agree
e mostly agree
f completely agree

1. We're all responsible for the pollution that invades the natural environment.
2. We live very well in the United States. We should do everything possible to keep it that way.
3. If the federal government taxed you everytime you used your electric can opener you would willingly pay the tax.
4. People who drive cars instead of riding bicycles should be fined according to the amount of carbon monoxide they put in the air.
5. Most businessmen are just concerned about making money.
6. When an industry pollutes a stream it should not voluntarily put out money for clean up unless the government legally requires it to do so.
7. If you knew your job contributed to pollution you would quit your job.
8. You and I have a moral obligation to protect the life and home of wildlife against the invasion of man.

ENVIRONMENTAL VALUES AUCTION

Pass out copies of the environmental values aution form on the following page to the students. Tell them have have $5,000 to spend and may spend no more than $2,500 on any one item. They must pretend they do not have any of the items. Bids open at no less than $50 and no more than $500 and proceed by increments of no less than $50 and no more than $100.

Appoint an autioneer or be one yourself.

Before you begin the auction, ask the students to indicate under the heading "Initial Allocation" how much they plan to bid for a particular item.

When the aution is over, discuss the results. What was important to each student? Ask them to explain why they bid as they did.

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Environmental Values Auction

Item	Initial Allocation	Amount I bid	Top Bid
Long life free from illness			
Travel and tickets to all cultural and athletic events			
Love and admiration of friends			
Television			
Unspoiled natural setting for your home			
Complete self-confidence and positive outlook on life			
Complete personal library			
Happy family relationship			
Automobile			
Large fruit and vegetable garden			
Satisfying love relationship			
Ability to speak many languages			
Chance to eliminate sickness and poverty			
Electricity			
Chance to preserve endangered species			
Understanding of the meaning of life			
Unlimited funds for the enjoyment of music			
World without prejudice			
Commercially canned and frozen foods			
World without pollution			

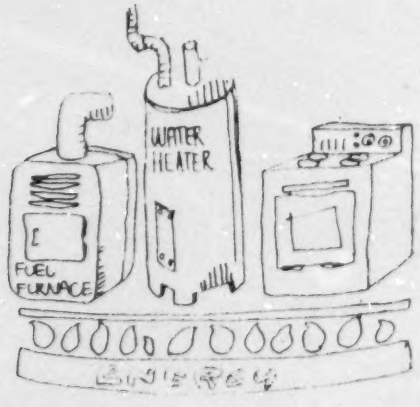
ENERGY CRUNCHING I

Give the class a list of items which use energy. Ask them to indicate which items they feel they can do without. Then ask them to explain which items could be replaced easily, which would be more difficult to replace, and which would be impossible to replace.

Electric lights	Prefab house
Electric stove	Aluminum siding
Electric heat	Power lawn mower
Water heater	Steam shovel
Air conditioning	Electric toothbrush
Electric mixer	Power saw
Washer	Plastic modular furniture
Dryer	Dishwasher
Synthetic fiber clothing	Television
Wood frame house	Radio
Automobile	Stereo system
Stop lights	Road graders
Street lights	Tractors

ENERGY CRUNCHING II

Divide the class into pairs. Ask each pair to list all the energy-using devices they have in their homes and out of these to choose ten they feel they cannot live without. Then ask them to choose five absolutely essential items out of the ten. Each pair explains their choices to the class.



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CREATIVE WRITING

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The best time to stage creative writing activities is right after a child has had a meaningful experience. Catch him in the excited aftermath of an enjoyable event or stage creative writing activities in conjunction with other experiences. Be sure to read lots of examples so kids can get a handle on what you want them to do.

ANIMALS IN THE CLASSROOM

Watching animals often elicits creative feelings from children. Bring animals into the classroom for a day or so. Let members of the class catch frogs, tadpoles, insects, centipedes, or slugs (I dare you). Place them in individual containers and let the kids observe their favorites.

Here are some ideas for creative writing activies concerning the critters:

Comic strips. Write a comic strip. Make your critter the main character.

Just So Stories. Read the class some of Kipling's Just So Stories. Then ask them to make up their own. How about "Why is a Slug Slimy?" or "Why a Tadpole Has to Wait for his Legs."

Adapt an animal. Imagine your critter in a setting other than its natural home and describe how it will kill its prey, eat, move, and protect itself. Don't be afraid to be crazy. Maybe it will protect itself by pushing a button which shoots up an impenetrable wall around it. Have it eat through its feet! Describe the adaptations it has made for its normal environment and how these have changed.

New combo. Combine different animal parts to create a new kind of animal. For example, combine sucking, piercing, or biting mouth parts with jumping, digging, or walking legs. What about a butterfly's mouth on the head of a tadpole? Explain how the new animal uses its body parts.

Biography of a critter. Write the story of your critter's life. Describe its birth, its present life, and then imagine what it's future life will be like. Will it die a natural death? Will it be zapped by man or another critter? Check out some books if you need help.

Critter similes. Think up some similes involving your critter and an inanimate object. "A typewriter is like a centipede because . . ."

"I wonder" statements. Think up "I wonder" statements, and then answer them yourself or give them to a friend. "I wonder what a tadpole thinks when he wakes up one morning and feels two legs?"

Kids in first grade draw pictures of their favorites and think of words and phrases to describe them. Let them all add to a story about critters; write this down on language experience charts. *Grades 1-2.*

MAGIC TELESCOPES

Sometimes children take more notice of the tremendous detail in their surroundings if they can block out other stimuli. Let each child make his own "magic telescope" and use it to zero in on a cavern of bark, a community on the underside of a leaf, or wispy clouds that scurry quickly out of the telescope's view. Then ask them to write a story about the real imaginary things that happen to the objects they've seen.

To make a "magic telescope," paint the cardboard tubes from paper towel or toilet paper rolls in bright colors or cover them with contact paper. Cover the ends with hard, clear plastic.

To illustrate their stories, kids trace a circle from the end of their telescopes and make a drawing within the lines. Store the stories inside the tubes.

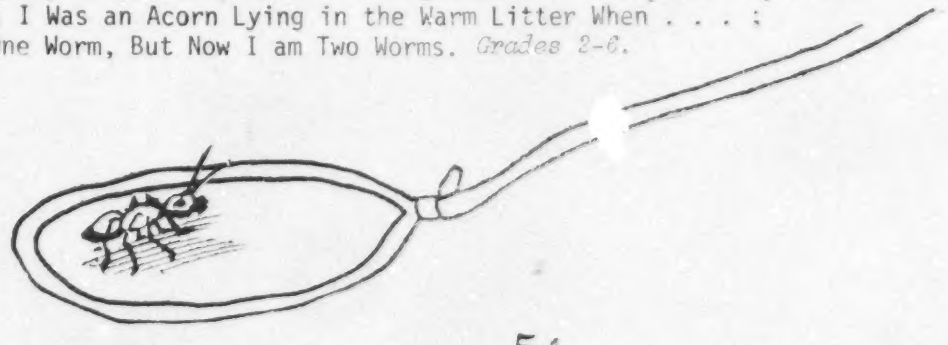
Kids can also draw on the end of the telescopes with permanent felt tip pens and look at the drawing in the sun. *Grades 3-6.*

LASSO AN ANT

Loop a rope like a lasso and run across the schoolyard swinging it above your head like a old-time cowboy. Hurl the lasso onto the ground and yell "I've got one!" By now you've gotten your class's attention (If you haven't, there's something wrong with them!) Tell them you've lassoed an ant, and search through the circle til you find one (the odds are very much in favor of it).

Let each child try to lasso his own ant. Give him a heavy string tied in a circle (about fourteen inches in diameter) and a magnifying glass and tell him to throw the circle on the ground. After he finds he finds his ant, the child explores the ant's mini-environment. They use the magnifying glass to get as close as possible to the ground -- eyeball at ground-level. If the class is in the woods. the kids should gently dig through the litter (fallen leaves, sticks, seed ponds), duff (decomposing litter), and top soil.

The children draw what they find in a large circle on a sheet of paper. Then they think of some creative writing topics using the experiences they've had to prod their imaginations. *Examples:* My Life in the Duff; I Was an Acorn Lying in the Warm Litter When . . . ; Once I Was One Worm, But Now I am Two Worms. *Grades 2-6.*



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NONSENSE RHYME ALPHABET BOOKS

Take the kids for some nature walks. Then help them write and illustrate a nonsense rhyme alphabet book. *Grade 1.*

Examples: The ant lost his pants
The bat kissed a cat
The creek took a peek

SCAVENGER HUNT

The *Vocabulary* section of this booklet includes some ideas for scavenger hunts. When the kids come back from a scavenger hunt, ask them look over the items they've collected and choose five they really like. They combine those five objects in a descriptive paragraph or story. Then they use the same five objects in another way for a new and different story. (Add a man-made object if you like -- a movie ticket, a button, a shoestring.)

First graders pick their favorite objects and make word cards to identify them. Each child adds his words to a class story. The teacher takes one group of children and a parent or aide takes another. *Grades 1-7.*

VANILLA HIKE

Just before class mark a route around the schoolyard by dabbing vanilla on plants and trees at various levels. Kids follow the route using their noses. It's a good idea to mark three or four short trails so the group doesn't bunch together.

In the classroom, discuss students' reactions to the hike. Point out that our sense of smell tells us a great deal about our environment.

Ask the students to write stories using their nose as the main character. *Grades 2-6.*

POLLUTION-FREE VACATION TRIPS

Kids describe a vacation trip as free of pollution as possible. *Grades 4-7.*

POLLUTION TV SCROLLS

Individuals or small groups of students think of television commercials encouraging pollution-wise behavior or banning items which pollute. Try poetry, song, or narration. Write and draw the commercial on a scroll of paper which can be rolled through a play television set made from a large cardboard box. *Grades 3-7.*

TREE EMPATHY

Take the class outside to the oldest tree in the neighborhood. Gather around the trunk of the tree. Give each child a chance to contribute some descriptive words or phrases about the tree. Now ask each child to pretend he is the tree. He can write about some of the events he's witnessed over the years. *Grades 3-7.*

MEET A TREE

Divide the class into pairs. One partner blindfolds the other and leads him to a tree. The blindfolded child examines the tree using all of his senses (except sight, of course). Encourage him to rub his nose on the bark, follow a low branch to its end without lifting his hand, sniff the tree from the base to the leaves, taste a leaf or a piece of bark, and so on. When he's through, his partner leads him away from the tree and takes off the blindfold. Then he's given three chances to find his tree. Reverse roles when he finds it.

When both children have had their turn, each sits alone next to his tree. He writes down the things that make it so special, so unique. Why was he able to recognize it? Is there any tree in the world just like it? First graders can draw the special features of their tree; later, in the classroom, the teacher or an aide can help them write descriptive words or phrases under the drawings. *Grades 1-7.*

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DIARY OF A LEAF

Take the class outside to compile a "diary of a leaf." Collect samples of soil, a seed, a green leaf, various stages of decay in a leaf, and more soil. Each child writes the diary of his leaf in the first person and displays his collection. *Grades 3-7.*

RECIPE FOR A FOREST

Take the class outside. Tell them you want to make a perfect forest. What recipe should you use? Ask the children to write down a list of ingredients. *Example:*

2,000 tons of velvety moss
60 dozen balsam trees with oozing sap
25 pileated woodpeckers
1 cool clear stream stocked with crayfish

Grades 3-7.

LEAF SKELETONS

Collect hard-skinned leaves like magnolia or shingle oak. Boil them in a mixture of water and washing soda (a handful of soda to a pot of water is about right) for half an hour. Leave them alone until the water is cool and then remove them from the water. Place them on layers of newspaper. With an old toothbrush, a blunt knife, or another kind of scraping tool, remove the fleshy part of the leaf, being careful not to harm any of the veins.

Now for a little creative writing! Compare the life lines of the leaf and of the tree to the life lines of a city -- the electrical, sewage, telephone, and food chain lines. The kids write "leaf" community stories, stretching their imaginations as far as they can and being as whimsical as they want. How about "The Day The Lower Leaves of the White Oak Had a Road Block on Main Sugar Street"? *Grades 3-7.*

DO MORE THAN JUST SNIFF THE WILDFLOWERS

Take the kids outside to a patch of wildflowers or bring wildflowers into the classroom. Give them each a magnifying glass and tell them to look at a wildflower from different angles and heights, to look right down into its center. Tell them to examine it with all their senses, not just with their senses of sight and smell. They can wear it behind their ears for a while; rub it over their faces, hands, and arms; rub it on their lips and taste the center and the underside of a petal. Then they write a description of the flower, being as specific as they can. They describe the flower from the viewpoint of a bee, a florist, or another flower; or they write a first person description pretending to be the flower. *Grades 3-7.*

HOMES OF THE FUTURE

Ask the kids if the world will be different a hundred years from now. How? Ask them to design the homes of the future -- spacerocket homes, submarine homes, tree houses, floating homes, etc. Then ask them to describe the changes that will occur in their community over the next hundred years. Remind them to consider changes in transportation, population, industry, education, and government. *Grades 4-7.*

FUTURE HEADLINES

Show the kids headlines from the local newspaper. Ask them to think of headlines to express their hopes and fears about the environment -- headlines which might appear sometime during the next century. *Examples:* "Nuclear Reactors Leading Energy Producers for 1985," "1992 New Cars Run on Leftover Oatmeal." *Grades 4-7.*

FAMILIAR CHARACTERS IN THE UNFAMILIAR

Kids write a story featuring their favorite storybook character in an environmental setting. *Examples:* "The Cat in the Hat in Kenlake State Resort Park," "Paul Bunyan Unpollutes Lake Erie."

If you're working with first graders, tape the stories or copy them down; transfer them to language experience charts later. *Grades 1-5.*

FISH EYE VIEW OF AN OIL SPILL

Take the kids outside. Give each group of 5-6 kids a pan filled with water and a bag or two of absorbent materials (e.g., cotton, newspaper, sawdust, wood chips, string, cornmeal). Now pour motor oil on top of the water. Challenge the kids to clean up the "oil spill." Dip a feather into the oil and ask them to clean the feather too.

After fifteen minutes, each group reports on its progress. Most will feel fairly unsuccessful. Talk about the problems they had. Discuss major oil spills and the problems associated with them. What happens to wildlife when an oil spill occurs? Why?

Assign creative writing topics. *Example:* Students take on the identity of fish or ducks and write about the oil spill from that particular vantage point. *Grades 3-7.*

SELF ADVERTISEMENT

Pass out art supplies. Each student designs an advertisement or brochure describing himself. Ask students to portray the attitude or characteristic they are most proud of. *Grades 6-7.*

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WANTED POSTERS FOR ENVIRONMENTAL VILLAINS

Show the kids some examples of wanted posters. (Find illustrations in books about the old west or perhaps some old wanted sheets discarded by the post office.) Who are some modern-day environmental villains? Make some posters offering a reward for their arrest. *Examples:* Wanted: All Those Leaving a Room Without Turning Off the Lights. *Grades 4-7.*

NEW AND OLD ATTITUDE POSTERS

Ask kids what people thought of the environment in the old days. Did they think about it at all? How should we regard the environment nowadays? Why? After a rousing discussion, make "attitude posters." One half of the poster illustrates the old attitude and the other half illustrates the new. *Grades 4-7.*

101 USES FOR A PLASTIC CONTAINER

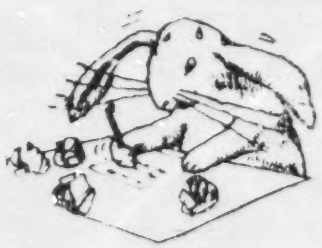
Display various plastic containers. Challenge the students to think of as many uses for them as possible. *Examples:* flower pot, bird feeder. Discuss the importance of recycling and the role that creative reuse of objects plays in it. *Grades 3-7.*

ALIASES

Take the class for a walk outside. Ask each student what animal they would choose to be if they could be any animal that lived in the area. Why? What qualities does the animal have that the student admires?

In the classroom, each student writes a story putting himself in the place of the animal. How would his life be different? As a human being, can he still have the qualities he admires in his particular animal?

First graders find a picture of their animal to tack on the bulletin board next to their own pictures. The teacher or aide helps them with a descriptive phrase to write under the pictures. *Grades 1-5.*



PERSONALITY BOX

Each student finds a box to represent himself, perhaps a cigar box, a match box, or a huge carton. On the inside of the box, he pastes words, pictures, or objects that express his self image. On the outside, he pastes words, pictures, or objects that represent how he feels others regard him. Remind students to consider all aspects of their personality. When the boxes are finished, each student describes in an essay what he has intended to convey and what specific words and pictures are meant to indicate. *Grades 6-7.*

ENVIRONMENTAL LIBRARY BOOKS

Visit the school library or the public library. Help kids find a book with a title having something to do with the environment.

In the classroom, the kids either (a) write a story using the same title before they read the book or (b) read half the book, write an ending for the story, and read the rest of the book. Compare the two stories. *Grades 3-7.*

TAPE AN OLD TIMER

Interview an old timer with a tape recorder. Ask him how the "old days" were. Get him to compare the past with the present in terms of energy, transportation, food, etc. Play the tape for the class and ask for their reactions. Ask each student to pretend he is ninety years old. He writes down what he would tell his great grandchildren about his childhood (the present). *Grades 5-7.*

SPACE AGE INVENTIONS

Read the class some science fiction stories or encourage them to read some on their own. Ask them to pick a space age invention and write an essay discussing what would happen if the device were in operation now. How would it affect our sources of energy? How would it affect our lives? *Grades 3-7.*

CREATING PICTURE STORIES

Take first graders outside and let them explore for a while. In the classroom, write a simple sentence about the time spent outside on an experience chart. Omit the direct object. The children copy the sentence. Then they cut out pictures which will complete the sentence and paste them onto their papers. Under the picture they write what it is and words to describe it (with the help of the teacher or an aide). Try several sentences. *Examples:* This is . . . *(picture of grass, trees, a worm).* We found ugly . . . *(pictures of litter).* I like . . . *(whatever).* *Grade 1.*

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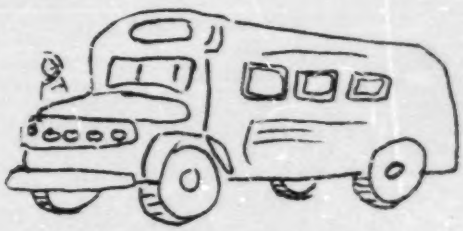
CEMETERY TRIP

A field trip can be an exhiliarating experience for students and one of the most useful resources the teacher has at his command for for stimulating interest in the student's own surroundings. Field trips help the child understand that education isn't limited to the classroom.

The local cemetery offers a safe, open, and available area for discovery and experiment. Cemetery study may *sound* morbid, but most kids thoroughly enjoy it -- once they get over their initial fears. Enlist the help of parents and pack the entire class off to spend the day there.



Outside the graveyard, gather the class around you. Ask them to visualize a funeral procession coming up the drive. Describe the scene, encouraging children to add comments as they wish. Talk about the clothing worn by the mourners, the means of travel, the type of coffin, etc. Tell the kids they're going to follow the procession inside the cemetery . . .

Divide the students into small groups and send them out to collection information from the tombstones.

1. Find out how many people died between the months of November and March and between the months of April and October in the 1800's. How many died between the months of November and March and April and October in the 1900's? Compare.

2. How many people died during the Civil War? How many during the Spanish-American war? How about during World War I and World War II?

3. How many children died before they reached the age of one in the 1800's? How many children died before they reached the age of one in the 1900's?

4. Look at the surnames on the tombstones. What name occurs most often? What nationalities are represented?

5. Is the decoration of the tombstones ornate or simple? Does this tell you anything about the economic status of the community?

7. Determine the age at death for ten men and ten women who died during the 1800's. Do the same for ten men and ten women who died during the 1900's. What is the average age at death for each group? Compare.

When each group has completed its task, gather all the students together. Ask them to imagine what life was like for people living a hundred years ago. Initiate a discussion. Back in the classroom, or even at the graveyard, assign creative writing topics. Following are some examples.

1. The year is 1879. You are a member of the Bruner family. You have just emigrated from Berlin, Germany, to a small farm in the midwest. What is life like for you on a winter's day? On a summer's day?

2. You are living in Boone's Creek, Kentucky, in 1861. Your father is leaving this morning to join the Union army and fight in the Civil War. How do you feel as he walks out the door?

3. Many children died in the 1800's before they reached the age of one year. You are a doctor in rural Kentucky in the 1870's. What situations do you encounter?

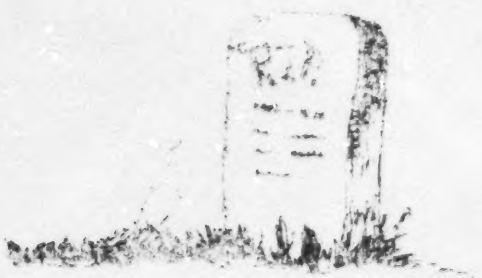
4. Make a gravestone rubbing. (Put a sheet of newsprint over a gravestone and rub with a crayon.) On another sheet, write yourself an obituary. How would you like to be remembered after you die?

5. *Values clarification.* Describe how you feel about death. Start with an open-ended sentence: Death makes life seem _____ .

Grades 4-7.

ENVIRONMENTAL OBITUARIES

Write an obituary for a pollution-causing or energy-wasting device, e.g., snowmobile, electric curlers, self-defrosting refrigerator. *Grades 4-7.*



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NATURAL STATIONERY

Invite parents to an "eco-event." Students make the invitations using the following techniques.

Dried plants. Glue dried leaves and flowers onto construction paper in a pleasing design.

Leaf ink prints. Roll ink on the backs of leaves and press the leaves on paper.

Spatter prints. Dip an old toothbrush in paint. Spatter the paint over a natural object (twig, leaf, etc.) placed on paper.

Nature rubbings. Place a sheet of paper over a piece of bark or a leaf. Rub with a crayon.

Blueprints. Arrange natural objects on blueprint paper in a pleasing design. Leave the paper in the sun for a few hours. Then put the paper in a jar with a small amount of ammonia in the bottom.

Make your own paper! Write The American Paper Institute, 260 Madison Avenue, New York, NY, for a free brochure.

What kind of an eco-event do you give? How about a wild foods dinner or an "eat-your-plate" meal. Sponsor an eat-your-plate meal to celebrate completing a unit on pollution or conservation. Use flat bread (pita bread is best) for plates, celery sticks for spoons, and orange or grapefruit halves (eat the fruit first) for cups. Afterwards discuss the ways the group conserved energy or avoided pollution: no clean up, hence no hot water and no detergent. *Grades 1-6.*

FOSSIL PRINTS

Take the kids outside to look for fossils. In the classroom, whip up a batch of plaster of paris and help each child pour a small amount into a greased plastic container. Kids press natural objects into the plaster of paris and pull them out quickly before the plaster sets. Let this *imprint fossil* dry. Then pour plaster of paris into the greased imprint fossil to form a *cast fossil*. Paint the fossils.

Assign creative writing topics. *Example:* A student pretends he is a scientist living in the year 3,000 A.D. He discovers an odd looking fossil. What is it? *Grades 3-6.*

POETRY

Many teachers are reluctant to ask their students to write poetry. They're afraid the kids can't ... or won't ... and certainly don't enjoy it!

But kids *can* enjoy writing poetry! Get rid of your own doubts first, and introduce the idea to them with enthusiasm and encouragement. Tell them that poems don't have to rhyme and that punctuation and spelling aren't so important. Tell them they can remain anonymous, if they wish, when you read the poems outloud. And let them write about things, events, or ideas that interest them.

Kenneth Koch describes how to teach children to write poetry in his book *Wishes, Lies, and Dreams* (New York: Random House, 1970).

I WISH POEMS

In *Wishes, Lies, and Dreams*, Kenneth Koch suggests that teachers start with "I Wish" poems, because dreams and wishes are things most kids understand easily. Read the kids some "I Wish" poems written by students their own age to give them a feeling for this kind of poetry (examples follow or refer to Mr. Koch's book). Explain to them that an "I Wish" poem is a sentence beginning with the words "I wish" and incorporating three or four specific subjects. For example, suggest a color, a sound, a type of plant, and a television star:

I wish a blue green blast would land the Bionic Woman in that weeping willow tree next to the school.

I wish yellow violets could "ping" and dance to Happy Days with J.J.

"I Wish" poems can be serious, but the crazy ones are more fun! Try a color, an energy device, a sound, and a mood:

I wish my electric can opener would turn purple, start to fizzle softly, and then melt down the counter to lie glumly on the floor.

I wish the television set would stop spewing black-and-white angry bangs.

I wish my sister's electric hair curlers would start spinning in a red-hot frenzy and then one by one dance frantically off into the skies to the sound of a big bass drum.

Combine the individual poems into one and read it aloud to the class. In the beginning, short poems are fine; later efforts can be more elaborate. If you're working with first graders, tape the poems or copy them down; transfer them to language experience charts later.

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COLOR POEMS

Send small teams of kids outside to collect as many shades of the same color as possible. Ask them to bring their collections indoors, or conduct class outside.

As the kids display their collections, start a discussion about colors: What are the colors of sounds? words? countries? numbers? Look around you. Do you see anything man-made the color of the sky? the bark of the maple tree? a leaf? What's the color of that sound? (Try hitting a ruler on a tree or dropping keys on the ground.) What color is a woodpecker's call? What color is the sound of the wind? What color is the crackling of the leaves? What color is France? Spain? Monday? 560?

Ask the kids to write a poem which mentions a different color in every line or a one-color poem which uses the same color or shades of the same color. Remind them that it doesn't have to rhyme. They can refer to their color displays for ideas.

As in "I Wish" poems, read the kids as many examples as possible. See the ones below or others in Koch's *Wishes, Lies, and Dreams. Grades 3-7.*

White Blue Red White Green

Snow is as white as the sun shines
The sky is as blue as a waterfall
A rose is as red as a beating of drums
The clouds are as white as the busting of a firecracker
A tree is as green as a roaring lion

What's Like What

Black is as black as drum thumping
But red is as red as a firecracker cracking
But white is as white as screaming out
The rain is as pink as pink tears
But orange is as orange as a blunk
That's what's like what!

What Shall I Chartreuse?

Oh green, yellow, orange, pink, red, black, brown
what shall I chartreuse today?
I could chartreuse with brown and gold
Oh I could red John in the nose
What shall I chartreuse?
I could put a green croack in Pinky's bed
What shall I chartreuse?
I could put a silver yeow on teacher's chair
What shall I chartreuse?
What could I chartreuse if I got a paint brush?
Oh, oh I just wasted the day on thinking what shall I chartreuse
But I could always think of something to crown yellow tomorrow

CINQUIN POETRY

The word *cinquin* comes from the French word *cinque* which means *five*. There are five lines in cinquin poetry. Each line may follow the pattern suggested in the following:

Line 1 Title (one word noun)
Line 2 Describes the title (two words)
Line 3 Action words or phrase about the title (three words)
Line 4 Describes a feeling about the title (four words)
Line 5 Refers to or renames the title (one word)

Take the class outside. Each student sits alone for five minutes. Older kids then write a cinquain on their own using what they have observed as subject matter. Gather younger kids together and have them write their poems as you give the guidelines. *Grades 4-7.*

Oak
Ancient, revered
Revealing bark canyons
Fills me with awe
Grandfather

Stump
Old, dead
Hard on bottom
Better than the ground
Chair

HAIKU

Most teachers have heard of haiku. These three-lined Japanese poems have five syllables in the first line, seven in the second line, and five in the last line. Again, give children outside experiences for writing haikus.

Giant oaks whisper
Softly they tell their story
Harken to the sound

Fragile torn leaves lie
Quite unseen and hidden well
Forever unfound

Man's contribution
To this quiet mountain pond
Is an old beer can

When tired of hearing
The crow's caw, caw, caw -- I just
Call it back to him

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CONCRETE POETRY

Concrete poems express more than either pictures or writing since the arrangement of the words is as important as the words themselves. After the kids have discussed the idea of concrete poetry and have seen some examples, ask them to make up their own poems. *Grades 3-7.*

KIDS IN PRINT

Send copies of kids' writings to the publication *Kids for Ecology*, P.O. Box P-7126, Philadelphia PA 19117. Some of them just might see their eco-writings in print!

RESOURCES

RESOURCES

Ideas for some of the activities in this booklet were taken from the following sources. The author gratefully acknowledges this contribution. Teachers may wish to consult these sources for more language arts activities.

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page 33 Project CREATION, LaSalle, IL, Jean Hauser, director. (*Population: An Urban Management Unit.*)